

ORIGINAL

FEDERAL ON-SCENE COORDINATOR'S AFTER ACTION REPORT

**for the
Franklin Smelting Site
Philadelphia, Pennsylvania**

February 23, 1998 through February 15, 2000



**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III
PHILADELPHIA, PENNSYLVANIA**



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PROJECT #442

**REGION III
CERCLA REMOVAL ACTION**

**PROJECT #442
FACT SHEET**

SITE: Franklin Smelting

SIZE: Approximately 9 acres

LOCATION: 3100 Castor Avenue, Philadelphia, Pa 19134

APPROVAL DATE: February 12, 1998

PROJECT DATES: February 23, 1998 – February 15, 2000

DESCRIPTION: Owner: Franklin Smelting and Refining Corporation

The Franklin Smelting and Refining Corporation (Franklin Smelting) was a secondary copper smelting facility that operated from 1935 until September of 1997. Due to financial constraints the company was forced to cease operations. The U.S Environmental Protection Agency conducted a removal assessment at the facility in September and October of 1997 in response to several issues, including violations of Federal, state, and local laws involving Resource Conservation and Recovery Act storage, underground storage tanks, air quality, and storm water and waste water discharge. Previous air monitoring and sampling efforts conducted in accordance with the National Ambient Air Quality Standards revealed the highest levels of lead emissions in the country. The initial removal assessment showed high levels of arsenic, cadmium, and lead in hundreds of deteriorating drums containing arsenical flue dust, several thousand cubic-yard tote bags in poor condition containing a zinc oxide-based powder/ash (a smelting byproduct), numerous large piles of feedstock materials, soil containing elevated levels of lead, and several leaking transformers containing polychlorinated biphenyl.

Onsite cleanup actions included shipment of high percentage copper-bearing feedstock materials, drummed flue dusts, circuit scrap, and metallurgic samples to a Canadian smelting facility for copper reclamation. Contaminated soil was excavated and transported off site for disposal. Where safely accessible, buildings and equipment were decontaminated by vacuuming dusts and pressure washing. Structures and buildings that were structurally unsafe or physically impossible to access were dismantled prior to decontamination; contaminated wood and debris material was transported off site for disposal. Cleaned scrap steel was transported to a local recycling facility. Existing cubic-yard bags of zinc oxide material, as well as like materials recovered from decontamination efforts, were also transported off site for disposal. Transportation and disposal of PCB-containing oils and transformer carcasses was conducted, and non-PCB-containing oils were drained from carcasses and sent off site for fuel blending. A mixture of gasoline and water was pumped out of one underground

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storage tank, and recovered liquids were sent off site for fuel blending. Small containers were lab-packed and transported off site for disposal. Fuels and oils were drained from abandoned equipment remaining on site, drummed, and transported off site for fuel blending.

Off-property decontamination efforts were conducted in two buildings of the neighboring Philadelphia Water Department Northeast Philadelphia plant, which had become contaminated by materials that migrated from the Franklin Smelting facility. EPA also conducted excavation of lead-contaminated soil and slag along the Conrail railroad tracks on both the northern and southern sides of Castor Avenue (which bisects the site). Materials recovered during these operations were transported off site for disposal.

**NATIONAL PRIORITIES
LIST (NPL) STATUS:**

The Franklin Smelting Site did not qualify for placement on the NPL list.

HAZARDOUS MATERIALS:

Lead, arsenic, cadmium, PCB's, corrosive liquids, inorganic peroxides, flammable liquids, corrosive acidic in organic constitutes, sodium cyanide

QUANTITIES REMOVED:

14,041 tons of soil and debris, 77 tons of tank sludge, 959 tons of contaminated wood and debris, 1,253 tons of contaminated demolition debris and soil, 7,569 tons of zinc oxide-based material; 61 tons of expendable personal protective equipment; 774 drums or containers; 5,409 kilograms of transformer shells; 2,073 gallons of bulk liquids (fuels); 12,564 tons of feedstock materials (recycled), 15 cylinders; 1,653 tons of decontaminated scrap steel (recycled); 160 tons of non-hazardous construction debris; and 13 pounds of medical waste

OSCs:

Douglas Fox and
Kevin Boyd

REMOVAL CONTRACTOR:

OHM Remediation Services Corporation
Trenton, New Jersey

DISPOSAL LOCATIONS:

CWM Chemical Services, L.L.C.
Model City, New York

Mills Service, Inc.
Yukon, Pennsylvania

City Environmental, Inc.
Detroit, Michigan

Safety Kleen (PPM), Inc.
Philadelphia, Pennsylvania

Chemtron Corporation
Avon, Ohio

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Cycle Chem, Inc.
Elizabeth, New Jersey

International Petroleum
Philadelphia, Pennsylvania

American Agip Co. Inc.
Hainesport, New Jersey

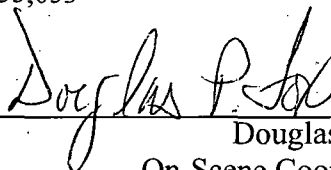
Noranda, Inc. (Horne Smelter)
Rouyn-Noranda, Quebec, Canada

Allegheny Iron and Metal
Philadelphia, Pennsylvania

BFI Valley Forge District
King of Prussia, Pennsylvania

PROJECT CEILING: \$19,486,250

PROJECT COSTS: \$13,455,053



Douglas P. Fox
On-Scene Coordinator (OSC)

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FOREWORD

The On-Scene Coordinator (OSC), as mandated by the National Oil and Hazardous Substances Pollution Contingency Plan, 40 Code of Federal Regulations Part 300 (NCP 1994), is required to provide a coordinated federal response capability at the scene of an unplanned or sudden release of oil or hazardous substance that poses a threat to public health and welfare or the environment. In addition, the provisions of Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) promote a coordinated federal, state, and local response to mitigate situations at hazardous waste sites that pose an imminent and substantial threat to public health and the environment.

Conditions at the Franklin Smelting Site presented an imminent and substantial risk of harm to human health and the environment due to the uncontrolled release of a hazardous substance to the environment, thereby providing a legal basis for federal response activities. The provisions of the NCP at Section 300.415, were implemented by the U.S. Environmental Protection Agency, Region III, Philadelphia, Pennsylvania.

The OSC would like to extend thanks to all of the agencies and individuals who provided valuable assistance and expertise to ensure the successful completion of this cleanup effort.



**Douglas Fox
On-Scene Coordinator
U.S. EPA Region III
Philadelphia, Pennsylvania**

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1.0 INTRODUCTION

This after action report presents the results of removal action activities conducted at the Franklin Smelting and Refining Corporation (Franklin Smelting) facility in Philadelphia, Pennsylvania.

The remainder of this section describes the background and site history, site location, and efforts to notify and compel potentially responsible parties to respond. The report describes the agencies, organizations, and individuals involved in this removal action (Section 2.0); provides a narrative of events (Section 3.0); identifies the resources committed (Section 4.0); discusses the effectiveness of the removal (Section 5.0); provides a chronology of events (Section 6.0) and describes the problems encountered and provides recommendations (Section 7.0).

1.1 Initial Situation (Background/Site History)

The Franklin Smelting Site is located in the Port Richmond section of the city of Philadelphia, Pennsylvania. The former secondary copper smelting facility, owned by Franklin Smelting and Refining Corporation (FSR), operated from 1935 to September 1997. Operations ceased for financial reasons.

When Franklin Smelting was in operations it had been cited by the City of Philadelphia for noncompliance with wastewater discharge regulations. In addition, Franklin Smelting is on record for causing the highest ambient air lead levels in the country. Prior to any actions taken by the U.S. Environmental Protection Agency Region III Removal Program, the site was under investigation by EPA's Resource Conservation and Recovery Act Branch for suspected shipment of hazardous waste without proper manifests, illegal hazardous waste storage, and potential underground storage tank (UST) regulation violations. The facility was also allegedly in violation of the Clean Water Act Consent Order issued by EPA Region III and a Clean Air Act Consent Decree.

Under the direction of on-scene coordinator Douglas Fox, the EPA Region III Removal Program conducted a site assessment in September and October of 1997. The site assessment revealed high concentrations of lead, cadmium, and arsenic in surface soil samples collected on site.

At the request of EPA Region III Water Protection Division and EPA Region III Office of Enforcement Coordination, EPA's Facility Inspection Program (FIP) conducted a multimedia inspection on October 15, 1997. The inspection found leachable concentrations of lead, cadmium, arsenic, and selenium in samples collected on and off site, well above the criteria required to qualify these materials as hazardous.

1.2 Site Location

The Franklin Smelting Site is located at 3100 Castor Avenue in the Port Richmond section of the City of Philadelphia, Pennsylvania, in an industrial and commercial area approximately ¼ mile northwest of the Delaware River. The geographic coordinates of the site are 39°08'50" north latitude and 75°08'60" west longitude. The closest residential area begins approximately 1/10 mile from the site, to both the north and the east.

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1.3 Efforts to Notify and Compel Potentially Responsible Parties to Respond

Region III Enforcement OSC Glen Lapsley attempted to negotiate a Consent Order with Mr. Michael Saltzburg, President of Franklin Smelting and Refining Corporation. Franklin Smelting and Refining Corporation reported that its accumulated debts outweighed its assets by approximately \$10 million.

2.0 ROSTER OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS

2.1 Names and Addresses

Table 1. Roster of Agencies, Organizations and Individuals

AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
FEDERAL		
U.S. EPA Region III (3HS31) Removal Response Section 1650 Arch Street Philadelphia, PA 19103 (215) 814-3262 (Fox) (215) 814-3418 (Boyd)	Douglas Fox, OSC Kevin Boyd, OSC	Coordinated all removal activities on site
U.S. EPA Region III (3HS32) Removal Enforcement and Oil Title III Section 1650 Arch Street Philadelphia, PA 19103 (215) 814-8413 (215) 814-8411	Glen Lapsley, EOSC Larry Richardson, Civil Investigator	Conducted PRP research, negotiated with PRP
U.S. EPA Region III (3HS30) Removal Branch 1650 Arch Street Philadelphia, PA 19103 (215) 814-3250	James Wright, FAS	Assisted with administrative duties, tracked project costs, audited contractor costs and equipment, and processed contractor invoices
U.S. EPA Region III (3RC21) Office of Regional Council 1650 Arch Street Philadelphia, PA 19103 (215) 814-2487	Andrew Goldman, ORC	Provided legal advice to OSC's and interacted with PRP's attorneys
U.S. EPA Region III (3AP13) Air Protection Division 1650 Arch Street Philadelphia, PA 19103 (215) 814-2161	James Hagedorn, Air Enforcement	Provided the OSC's with pertinent background information regarding air quality violations

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AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
U.S. EPA Region III (3WP31) Water Protection Division 1650 Arch Street Philadelphia, PA 19103 (215) 814-3438	Chris Pilla, Water	Provided the OSC's with technical information regarding storm water discharge
U.S. EPA Region III (3WC31) Waste & Chemical Management Division 1650 Arch Street Philadelphia, PA 19103 (215) 814-3391	Susan Sciarratta, RCRA Enforcement Officer Andrew Klibanoff, RCRA Enforcement Officer Charlene Creamer, RCRA Enforcement Officer	Provided the OSC's with technical information regarding potential illegal storage of hazardous waste
U.S. EPA Region III (3ES32) Environmental Services Division 2530 Riva Road – Suite 300 Annapolis, MD 21401 (410) 573-2777	Gerald Crutchley, Facility Inspector	Assisted the RCRA Enforcement Officers with facility multi-media inspection and sampling
U.S. EPA Region III (3HS43) Community Involvement Section 1650 Arch Street Philadelphia, PA 19103 (215) 814-5532	William Hudson, Community Involvement Coordinator	Assisted the OSC's with coordinating issues involving the local community
U.S. EPA Environmental Response Team 2890 Woodbridge Avenue Building 18, MS-101 Edison, NJ 08837 (732) 321-6744	Andre P. Zownir, Senior Environmental Engineer	Provided the OSC's with technical information regarding smelting facility cleanup projects
U.S. Department of Labor Occupational Safety and Health Administration U.S. Customs House, Room 242 2 nd & Chestnut Streets Philadelphia, PA 19106 (215) 597-4955	Jim Woodburn, Industrial Hygienist Phyllis Kiner, OSHA	Provided the OSC's with information regarding past OSHA inspections and violations
U.S. EPA Region III (3HS33) CEPP & Site Assessment Section 1650 Arch Street Philadelphia, PA 19103 (215) 814-8231	Bill Wentworth, Site Assessment Manager	Evaluated the site for potential ranking on the NPL

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AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
U.S. EPA Region III (3CE00) Office of Enforcement, Compliance, and Environmental Justice 1650 Arch Street Philadelphia, PA 19103 (215) 814-2627	Samantha Fairchild, Director	Gathered support information to be included in an enforcement order for the site
U.S. EPA Headquarters Washington D.C. (703) 603-9150	Roxana Mero, Regional Liaison Officer	Acted as liaison between EPA Region III and EPA headquarters
U.S. Coast Guard National Strike Force Atlantic Strike Team Building 5614 Fort Dix, NJ 08640 (609) 724-0008	Peter C. Pritchard, Response Supervisor	Provided the OSC with a rotation of Atlantic Strike Team members to provide health and safety oversight, contractor monitoring & air monitoring during site operations
STATE		
PADEP 555 North Ln. Conshohocken, PA 19428 (610) 832-6146	Nancy Roncetti, Waste Management Jim Pagano, Waste Management	Provided facility background information and information regarding site-specific ARAR's
LOCAL		
City of Philadelphia Solicitor's Office (215) 856- 5246	Patrick O'Neil, attorney	Periodically communicated with the OSC to receive site updates
Philadelphia Industrial Development Center (215) 496-8152	Joe Mee	Provided background information regarding loan(s) that PIDC provided to Franklin Smelting and Refining Corporation
City of Philadelphia Philadelphia Water Department – Northeast Water Pollution Control Plant 3900 Richmond Street Philadelphia, PA 19137 (215) 685-1301	Bill McKeon, Plant Manager Diane Mackleberry	Acted as liaison during EPA's cleanup actions at the PWD facility
City of Philadelphia Department of Public Health Air Management Services 321 University Avenue Philadelphia, PA 19104 (215) 685-7572	Ed McLaughlin Satish Suri, Environmental Engineer Elyse Shaffer, Supervisor	Coordinated with EPA to provide perimeter air samples from PAMS stations around the site; provided OSC's with historical air monitoring and sampling data

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AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
City of Philadelphia Hazardous Materials Unit Philadelphia Fire Department 5200 Pennypack Street Philadelphia, PA 19136 (215) 685-8960	Charles Crowther, Captain	Acted as liaison between EPA and the City of Philadelphia
City of Philadelphia Managing Directors Office (215) 686-3480	John Hadulski, LEPC Coordinator	Periodically communicated with the OSC to receive site updates
POTENTIALLY RESPONSIBLE PARTY		
Franklin Smelting and Refinery Corporation 3100 Castor Avenue Philadelphia, Pa 19134 (215) 425-7300	Michael Saltzburg, President	Coordinated with the OSC regarding cleanup plans and access to the property
CONTRACTORS		
Roy F. Weston, Inc. (SATA) 5 Underwood Court Delran, NJ 08075 (856) 461-4003	Arthur W. Saunders, Environmental Scientist Julien Gaudion, Environmental Scientist Mark Krzykalski, Geologist Brian Weaver, Environmental Scientist Jeffrey Brill, Chemical Engineer Michelle Price-Fay, Environmental Scientist Wayne Randolph, Geologist Joe DeFeo, Environmental Scientist Terry Shultz, Environmental Scientist	Provided technical assistance, contractor oversight, multimedia sampling, cost tracking, and photo graphic and video documentation
Tetra Tech EM Inc. START-3 107 Chelsea Parkway Boothwyn, PA 19061 (610) 485-6410	Nicholas Kapelan, Environmental Scientist	Finalized the draft OSC report
OHM Remediation Services Corporation (ERRS) 200 Horizon Center Blvd. Trenton, NJ 08691 (609) 588-6423	Ron Chesney, Site Superintendent Barry Conaway, Safety Supervisor	Completed the environmental remediation and removal of hazardous materials and substances from the site as well as worker safety
SUBCONTRACTORS		
Advance Scale Company 2400 Egg Harbor Lindenwold, NJ 08021 (609) 627-0700	Marty Finger, Representative	Repaired and calibrated the truck scale system on the north side of the site

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AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
Allegheny Iron and Metal Co., Inc. Tacony Street and Adams Avenue Philadelphia, PA 19124 (215) 743-7760	Thomas J. O'Brien, Director of Purchasing	Provided and transported roll-off boxes; recycled decontaminated scrap metal
American Agip Co. Inc. P.O. Box 284 Hainesport, NJ 08036 (800) 543-9556	David Anton, Operator James Varley, Operator	Transported bulk fuels and oils for fuels blending
Anchor Fence 3071 Route 73 P.O. Box 627 Maple Shade, NJ 08052 (609) 779-2620	Rich Livingston, Representative	Installed and repaired site perimeter fencing
Anthony Crane & Equipment 601 Chester Pike P.O. Box 132 Ridley Park, PA 19078 (610) 833-2800	Frank Casper, Crane Specialist	Provided cranes and operators during the dismantlement of the stainless steel stack and ductwork by baghouses 14-19
Assets Protection 113 West Lincoln Highway Pennel, PA 19047 (215) 741-1200	Don Herr, Representative	Provided site security
Browning-Ferris Industries Browning Ferris Inc. Valley Forge District P.O. Box 8887 Boston, MA 02266-8887 (610) 265-6337	NA	Supplied roll-off boxes and hauled non-hazardous construction debris off site
Capitol Environmental 110 Maplehurst Avenue Syracuse, NY 13208 (315) 682-1940	Jim Corbett, NE Regional Manager	Soil disposal at its facility
City Environmental 1923 Fredericks Street Detroit, MI 48211 (313) 923-0080	Jaye Gumkowski, Representative	Disposed of zinc oxide, wood and debris, and PPE
CWM Chemical Services 1224 Hayes Blvd. Bristol, PA 19007 (215) 788-3358 Ext. 3031	Linda Robb, Account Retention Specialist	Disposed of soils, various debris, wood, zinc oxide, drums of arsenical flue dust, and sludge
Clean Venture/Cycle Chem 217 South 1 st Street Elizabeth, NJ 07206 (908) 355-5800	Dave Fernbacher, Representative	Disposed of mixed oils, oil solids, waste aerosols, flammable liquids, corrosive liquids, waste paints, inorganic peroxides, corrosive acidic in organic constituents tank sludge and silt, sodium cyanide, and drums of non-hazardous solids

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AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
Data Chem (513) 733-5336	NA	Provided analytical services
Davis Instruments (800) 678-3669	NA	Manufactured data logging weather station
EMSL (856) 858-4800	NA	Provided analytical services
Envirogenics 3812 B Quaker Bridge, Suite 208 Mercerville, NJ (609) 586-0700	Jeff Olcott, CIH	Provided an EMT to monitor personnel for heat stress
Envirolab (904) 672-5668	NA	Provided analytical services
HAZCO (800) 332-0435	NA	Rental of air monitoring instrument
I.E. Monitoring Instruments (614) 436-4933	NA	Provided air monitoring equipment rental
International Petroleum Corporation 505 S. Market Street Wilmington, DE 19801 (302) 421-9306	NA	Transported bulk fuels from UST off site for fuels blending
Kelly Security 60 North Pottstown Pike Eagle, PA 19480 (610) 458-9909	Ann Marie Kelly, Representative	Provided site security
J.F. Martin Inc. 4170 Richmond Street Philadelphia, PA 19137-1908 (215) 289-4516	NA	Transported 11 cylinders off site
Max Environmental 1815 Washington Road Pittsburgh, PA 15241 (800) 851-7845	NA	Brokered the disposal of zinc oxide, wood and debris, and PPE to Mill Service, Inc.
Metallurgy Viability, Inc. (864) 234-0914	Robert R. Odle, Ph.D Environmental Engineer	Provided services as smelter expert
MIE Inc. (888) 643-4968	NA	Manufacturer of air monitoring equipment
Neumeyer Environmental (412) 781-3570	Frank Neumeyer, Representative	Provided two VEC Loader vacuum units and a mechanic
New Waste Concepts 160-C Lavoy Street Erie, MI 48133 (734) 847-8997	Tim Johnston, Representative	Provided materials and equipment to spray encapsulating foam onto feedstock piles for stabilization of airborne contaminants

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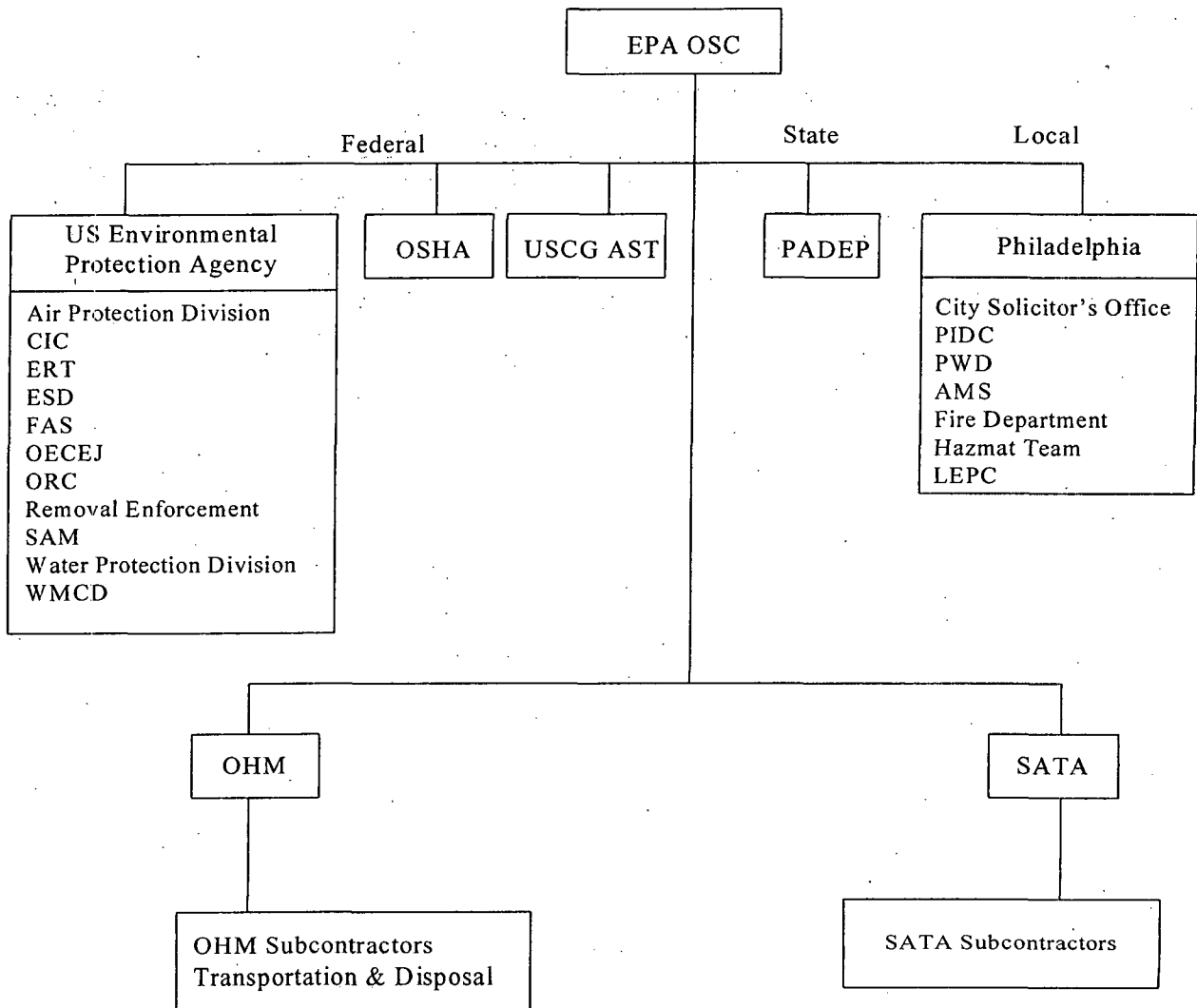
AGENCY	CONTACT	BRIEF DESCRIPTION OF DUTIES
Noranda Metallurgy Inc. Suite 2700 1 Adelaide Street East Toronto, Ontario, CAN M5C 2Z6 (416) 982-7424	Kevin Weppler, Manager	Received feedstock material for copper reclamation
Pace Inc. (612) 607-6347	NA	Provided analytical services
PECO Energy (215) 731-2362	Francis Barthmaier Design and Construction Consultant	Relocated power lines and covered lines with protective sleeves.
Pennsylvania Welding Supply Company 242 E. Hunting Park Avenue Philadelphia, PA 19124 (215) 329-7600	Gary Fogg, Representative	Removed one argon and carbon dioxide cylinder and one empty cylinder from site
Q-Biochem Inc. (540) 265-7211	NA	Provided analytical service
RECRA Lab Net 208 Welsh Pool Road Lionville, PA 19341 (610) 280-3075	Marie Snyder, Representative	Provided analytical services
Safety Kleen (PPM) Inc. 4105 Whitaker Avenue Philadelphia, PA 19124 (215) 425-5144	Lorie McCarney, Records Administrator	Disposed of PCB transformer shells and drums containing PCB-containing oils
Severn Trent (412) 820-8380	NA	Provided analytical services
Suburban Propane Rt. 309 and Bethlehem Pike Montgomeryville, PA 18936-0038 (215) 855-6891	NA	Removed two aluminum cylinders and one steel cylinder from site
Thackray Crane Rental, Inc. 2071 Byberry Road Philadelphia, PA 19116 (215) 464-1600	Jim Thackray, Representative	Provided cranes and operators for the dismantlement of baghouses 20-23, stacks, and connected ductwork
Wayman Fire Protection, Inc. 403 Meco Drive Wilmington, DE 19804 (800) 999-1134	John Johnson, Representative	Repaired fire prevention system in the warehouse and office building

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2.2 ORGANIZATION OF THE RESPONSE

Figure 1



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3.0 NARRATIVE OF EVENTS

Work activities associated with the Franklin Smelting Site began on February 27, 1998, and ended on February 15, 2000. These activities are summarized below. On February 27, 1998, EPA, the Superfund Assessment and Technical Assistance and the Emergency Rapid Response Service (OHM) Corporation personnel mobilized to the site to begin cleanup and removal activities. ERRS began by establishing 24-hour site security, mobilizing a guard trailer and restroom facilities, and mending and repairing of site fencing to deter any trespassers from entering the site to retrieve valuable recyclable materials. They also conducted an assessment to determine the possibility of the offsite migration of contaminants. SATA activities included the site mapping and cataloging of materials on site.

Activities in the northern side of the site ran simultaneous with operations on the southern side during the removal operations; therefore, the overall site activities were broken down into north and south side operations.

In early March of 1998, ERRS established and constructed a contamination reduction zone (CRZ) for all north side operations. North side activities included over- packing and staging drums, decontamination of the shredder and shear units, installation of gutter buddies, and power sweeping the area to ensure particulates did not migrate off site through storm sewers or via air migration. ERRS also decontaminated the Philadelphia Water Department's (PWD) Area 5, sludge thickening building, and fan rooms by using high efficiency particulate air (HEPA) vacuums. All recovered dust and ash was put into containers and staged for disposal at a later date. ERRS stabilized tote bags and piles on the north side of the site with the ConCover material (foam stabilization material). Next, ERRS cleaned and calibrated the weigh scale for use during the load out operations. In early April 1998 the excavation and backfill of the north yard began and by the beginning of August 1998, the excavation and backfill were complete. In early September 1998, operations in the north yard were suspended due to the delays in finalizing arrangements for the transportation of feedstock material for reclamation. By the end of September 1998, the north yard operations restarted as the subcontract for the recycling of feedstock was finalized with Noranda of Quebec, Canada. ERRS began loading railcars of feedstock for shipment to Noranda. For the next 12 months of operations, material continued to be staged and shipped from the north yard. In September 1999, ERRS completed the decontamination of the office and warehouse building. In October 1999, the International Petroleum Corporation arrived on site to pump out the UST located in the north yard by the warehouse. Approximately 1,450 gallons of a gasoline and water mixture was removed. In mid-November 1999, ERRS placed Gabion baskets with stone along the deteriorated western wall adjacent to PGW.

In mid-May of 1998, ERRS set up a temporary CRZ inside the former oxygen plant located on the south side of the site. Prior to any south side activities it was necessary to perform the dismantling of the top 60 feet of the 130 foot scrubber stack. The walkway between the scrubber-stack and baghouses 7 through 11 were removed and the lower 60-ft section of the stack was dismantled. ERRS demolished the office trailers and cleaned various rooms of the transfer building. The debris from these tasks was placed in roll-off boxes and shipped off site to a reclamation facility. ERRS cleaned the area between the converter and transfer buildings and around the Torit baghouse by bagging and transporting the material to the north yard. Due to the

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high leachable lead content of red brick, it was shipped to a hazardous waste landfill for disposal. A vacuum-loader and excavator were mobilized to the site for the decontamination and demolition operation around the converter building. Throughout the decontamination and demolition, air-monitoring data were collected and revealed no elevated dust levels. ERRS cleaned and demolished the electrical building, the transfer building, the vat room, and the weld shop. ERRS transported and disposed of all the over-packed drums of arsenical dust and removed all of the sediment and ash in the charging area. ERRS decontaminated the briquette area, charging shed, and rocking reverb areas of the smelter building and behind the Torit baghouses. The tote bags generated during the vacuuming operations were staged on the north side of the site. Next, ERRS transported and disposed of the zinc oxide bags and then they began the demolition of the charging shed and baghouses 12 and 13. During the months of June and July 1999, ERRS demolished the afterburner and cooling tower inside the smelter building. The fence contractor began work on the site fence along Castor Avenue by removing the temporary fence and installing permanent fence. It also fabricated brackets for the barbed wire installation on the rolling gate and the alleyway steel wall behind the smelter building. In September 1999, baghouses 20 through 23 were demolished and a contractor was on site to install a heavy plastic shrink-wrap over the exposed converters for protection. Then the excavation and backfilling of the south side's northwestern corner began along with the decontamination of the garage roofing.

In January 2000, demobilization of the heavy equipment began. SATA received the results of the aggressive-high volume air sampling that was performed in the smelter process building, which reported the lead and cadmium concentrations below the permissible exposure limits (PEL). ERRS shipped off all scrap metal, non-hazardous mixed oil, and all the used (personal protective equipment).

All work activity pursuant to the action memoranda dated February 12, and June 25, 1998 has been completed by February 15, 2000. ERRS completed all the remaining tasks and all trailers, power and water utilities, and 24-hour security ended. ERRS decontaminated and demobilized all remaining equipment on site, including site dumpsters and heavy equipment. ERRS and SATA demobilized from the site on February 4, 2000.

4.0 RESOURCES COMMITTED

The Franklin Smelting Site Removal Action received initial and additional funding allocations to eliminate the threat it posed to public health or welfare and the environment. The purpose of these two funding allocations and a total cost summary are found in Sections 4.1 through 4.3.

4.1 INITIAL FUNDING REQUEST

The initial funding request was signed on February 12 1998, allocating a project ceiling of \$1,981,000 to eliminate the imminent threat to public health or welfare or the environment posed by existing conditions at the Franklin Smelting Site. The proposed actions included restriction of access to the site, determination of the extent of contamination, determine the appropriate actions taken to mitigate the threat, and implement the actions determined to be appropriate. A copy of the signed request is provided as Attachment 1.

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4.2 ADDITIONAL FUNDING REQUEST

Additional funding was requested and was granted on June 25 1998, allocating a project ceiling of \$19,486,000 to complete removal and stabilization activities at the Franklin Smelting Site. Additional monies were required to address the existing threats posed to human health and the environment. A copy of the signed request is provided as Attachment 2.

4.3 ESTIMATED TOTAL COST SUMMARY

The Estimated total cost as of February 15, 2000 is shown by category below:

ERRS	\$12,186,577
SATA	\$ 502,856
USCG	\$ 66,557
EPA Direct	\$ 219,570
EPA Indirect	\$ 467,296
PECO	\$ 12,197
Total	\$ 13,455,053

5.0 EFFECTIVENESS OF THE REMOVAL

The removal action at the Franklin Smelting Site required the support of federal, state, and local agencies as well as support contractors. Their activities, the analytical results from sampling, and the disposal methods and quantities of waste removed are summarized in sections 5.1 through 5.3

5.1 ACTIVITIES OF THE VARIOUS AGENCIES

The removal action efforts for the Franklin Smelting Site identified the potentially responsible parties (PRP) and involved federal, state and local agencies as well contractors. These parties, agencies, and contractors and their involvement are identified in the following sections.

5.1.1 POTENTIALLY RESPONSIBLE PARTIES

The PRPs for the Franklin Smelting Site were Francos Realty, Inc. and the Franklin Smelting and Refining Corporation. Since neither of these parties are financially viable, the EPA removal activities were warranted.

5.1.2 FEDERAL AGENCIES

EPA and USCG personnel were involved in the removal activities at the Franklin Smelting Site. Specific personnel and their responsibilities are listed below.

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Doug Fox was the responding EPA OSC who initiated response activities and activated the CERCLA funds for initial site stabilization. OSCs Doug Fox and OSC Kevin Boyd coordinated all the removal and disposal activities on site.

EPA Site Administrative Officer (SAO) James Wright assisted with administrative duties, tracked project costs, audited contractor costs and equipment, and processed contractor invoices.

EPA Office of Regional Council (ORC) Andrew Goldman provided legal advice to the OSCs and interacted with the PRP attorneys.

EPA Air Enforcement Officer James Hagedorn provided the OSCs with pertinent background information regarding the air quality violations.

EPA Water Officer Chris Pilla provided the OSCs with technical information regarding the storm water discharge.

EPA RCRA Enforcement Officers Susan Sciarratta, Andrew Klibanoff, and Charlene Creamer provided the OSCs with technical information regarding the potential illegal storage of hazardous waste.

EPA Facility Inspector Gerald Crutchley assisted the RCRA enforcement officers with the facility inspection information.

EPA Community Involvement Coordinator William Hudson assisted the OSCs with coordinating issues involving the local community.

EPA Site Assessment Manager (SAM) Bill Wentworth evaluated the site for potential ranking on the NPL.

EPA Director Samantha Fairchild gathered support information to be included in an enforcement order for the site.

EPA Senior Environmental Engineer Andre P. Zowair provided the OSCs with technical information regarding the smelting facility cleanup projects.

EPA Enforcement On-Scene Coordinator Glen Lapsley and Civil Investigator Larry Richardson conducted PRP research and negotiated with PRP's.

EPA Industrial Hygienist and Occupational Safety and Health (OSHA) Officer Phyllis Kiner provided the OSCs with information regarding past OSHA inspections and violations.

EPA Regional Liaison Officer Roxana Mero acted as liaison between EPA Region III and EPA headquarters.

USGC Response Supervisor Peter C. Pritchard provided the OSC with a rotation of Atlantic Strike Team members to provide air monitoring, health and safety oversight, and contractor monitoring during site operations.

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5.1.3 State and Local Agencies

Philadelphia city government employees and Pennsylvania State government employees participated in the removal action activities at the Franklin Smelting Site. Specific personnel and their responsibilities are listed below.

City of Philadelphia Solicitor Patrick O'Neil communicated with the OSC to receive site updates.

City of Philadelphia Water Department staff member Bill McKeon, acted as liaison during the EPA's cleanup actions at the PWD facility.

City of Philadelphia Department of Public Health Air Management Services staff members Ed McLaughlin, Satish Suri, and Elyse Shaffer coordinated with the EPA to provide perimeter air samples from Philadelphia Air Monitoring (PAM) stations around the site and provided the OSCs with historical air monitoring and sampling data.

City of Philadelphia Department of Hazardous Materials Unit, Philadelphia Fire Department Captain Charles Crowther acted as liaison between EPA and the City of Philadelphia.

City of Philadelphia Managing Director's Office Coordinator John Hadulski periodically communicated with the OSC to receive site updates.

Pennsylvania Department of Environmental Protection (PADEP) Waste Management Division provided facility background information and information regarding site-specific applicable or relevant and appropriate requirements (ARAR).

5.1.4 Contractors

The Roy F. Weston, Inc., team provided technical support to the OSC during the demolition and removal activities. Their responsibilities included site safety, contractor oversight, multimedia sampling, drafting, cost tracking, and photographic and videographic documentation.

Tetra Tech EM Inc., Superfund Technical Assistance and Response Team (START) prepared the final OSC report for the site.

OHM served as the cleanup contractor under the ERRS contract. Their responsibilities included completion of the environmental remediation actions and the removal of hazardous materials and substances from the site as well as worker safety.

5.2 Analytical Synopsis

The site assessment conducted by SATA included 10 surface soil samples in September 1997. The soil contained elevated concentrations of arsenic, cadmium, and lead. The analytical results from samples collected during the removal assessment on September 30, 1997, revealed lead concentrations varying from 13,200 to 80,300 milligrams per kilogram (mg/kg) in samples collected on site. Elevated arsenic (90.3 mg/kg), cadmium (1,490 mg/kg), copper (335,000

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mg/kg), and zinc (218,000 mg/kg) were also detected. These samples were collected from various stockpiled materials at the facility, including the baghouse dust material, which was exposed to the elements at the bagging station. The EPA multimedia inspection of the Franklin Smelting Site conducted on October 15 and 16, 1997, revealed high leachable levels of metal contamination. A leachate analysis of a grab sample of one of several hundred bags containing dust from the facility's baghouse contained a leachable lead concentration of 109 milligram per liter (mg/L) and a leachable cadmium concentration of 7.12 mg/L. The RCRA Toxic Characteristic Leaching Procedure (TCLP) regulatory limits for lead are 5.0 mg/L and for cadmium are 1.0 mg/L. The baghouse dust is a RCRA hazardous waste exhibiting the characteristic of toxicity. Analysis of a sample of the same material exposed to the elements during the removal assessment revealed a total lead concentration of 80,300 mg/kg and a cadmium concentration of 1,490 mg/kg.

A sample of material stored in the approximately 300, 55-gallon drums in the facility's north yard contained concentrations of leachable lead of 42.8 mg/L and a concentration of leachable selenium of 6.5 mg/L. Many of these drums are old and corroded and have already released hazardous substances onto the ground. Drums located in the warehouse contain leachable arsenic of 7.81 mg/L, leachable cadmium of 69.9 mg/L, leachable lead of 22.3 mg/L, and leachable selenium of 4.69 mg/L. The TCLP regulatory limits for selenium and arsenic are 1.0 mg/L and 5.0 mg/L, respectively.

Slag material found in the north yard of the facility contained a leachable lead concentration of 46.2 mg/L, well above the TCLP regulatory limit of 5.0 mg/L.

Contaminants in surface water migrating off the property to the Delaware River were monitored by the PWD; their analysis revealed that copper, lead, and zinc concentrations are orders of magnitude higher than acute toxicity criteria established by CWA for freshwater aquatic organisms (fish).

5.3 Disposal Methods and Quantities Removed

The waste disposal methods associated with the Franklin Smelting Site were conducted off site. The disposal methods used for these wastes included treatment by a landfill off site and incineration off site.

Actual manifests for all disposal of waste material are stored in the site file maintained in the EPA Region III Central Record Room, in Philadelphia, Pennsylvania.

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Table 2 Disposal Methods and Quantities

Material	Quantity	Unit	Disposal Facility	Disposal Method
Soil and debris RCRA hazardous soil and debris	14,041	Tons	Mill Services, Inc. Yukon, Pennsylvania CWM Chemical Services, L.L.C., Model City, New York	Landfill
Tank Sludge FRP Tank 1 Sludge	77	Tons	CWM Chemical Services, L.L.C., Model City, New York	Landfill
Wood Debris Wood/Cardboard Debris (Lead, Cadmium)	959	Tons	City Environmental, Inc. Detroit, Michigan	Landfill
Demolition Debris/Soil Red Brick Debris Wood Timbers FRP Soils Roof Vacuum Material	1,253	Tons	CWM Chemical Services, L.L.C., Model City, New York	Landfill
Zinc Oxide-Based Material	7,569	Tons	Mill Services, Inc. Yukon, Pennsylvania CWM Chemical Services, L.L.C., Model City, New York City Environmental, Inc. Detroit, Michigan	Landfill
PPE (used) (Lead, Copper)	61	Tons	City Environmental, Inc. Detroit, Michigan CWM Chemical Services, L.L.C., Model City, New York	Landfill
Drums and containers Arsenic dusts PCB drums: diesel rinsate Hazardous waste liquid Mixed oils (lead) Non-hazardous solid waste Non-hazardous soils Hydraulic and polymer oils Brake fluids Sodium cyanide Waste aerosols Flammable liquids	774	Drums	CWM Chemical Services, L.L.C., Model City, New York Chemtron Corporation Avon, Ohio Noranda Inc. Home Smelter Rouyn-Noranda Quebec J9x7C1 Canada Clean Venture/Cycle Chem Elizabeth, New Jersey	Landfill

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Table 2 continued

Material	Quantity	Unit	Disposal Facility	Disposal Method
PCB transformer shells	5,409	Kilogram	Safety Kleen "PPM" Philadelphia, Pennsylvania	Recycle
Bulk liquids Motor oil Hydraulic oil Gasoline and water mixture	2,072	Gallons	American Agip Co. Inc. Hainesport, New Jersey International Petroleum Wilmington, Delaware	Recycle
Feedstock materials Shredded feedstock and circuit boards Wire and phone scrap Copper fines Coarse screenings Metallurgical coke	12,564	Tons	Noranda Inc. Home Smelter Rouyn-Noranda Quebec J9x7C1 Canada	Recycle
Scrap steel	1,653	Tons	Allegheny Iron and Metal Co., Inc. Philadelphia, Pennsylvania	Recycle
Non-hazardous construction debris	160	Tons	BFI Valley Forge District 372 South Henderson Road King of Prussia, Pennsylvania 19406	Landfill
Medical waste	13	Pounds	Bridgeview, Inc. Morgantown, Pennsylvania	Incineration

6.0 CHRONOLOGY OF EVENTS

Site Start-Up through Tuesday, February 27, 1998

Several Region III Enforcement elements were compiling information for the issuance of Notice of Violations (NOV's). Due to the widespread offsite contamination, Region III's Office of Enforcement, Compliance, and Environmental Justice (ECEJ) requested that a multi-media sampling and assessment be performed and conducted on October 15, 1997. The areas that were targeted were Air, Water, RCRA, and TSCA. The inspection team also compiled data received from the state regarding UST issues.

On September 30, 1997, at the request of U.S. EPA Region III Air Protection Division, EPA Region III Removal Response Section and the Site Assessment Technical Assistance (SATA) contractor conducted a sampling event at the Franklin Smelting Site. Several samples representing the possibly contaminated materials were collected and sent to a laboratory for analysis. Based upon elevated concentrations of arsenic, cadmium, and lead indicated in the analytical results received for samples collected during the assessment, the site was eligible for a

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response action under section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

An action memorandum allocating funding for the removal action was signed on February 12, 1997, with the intent to mitigate the threat posed to human health and the environment. Approval of the funding request began the mobilization of site support equipment and personnel to address the environmental concerns on-site. EPA OSC Fox, USCG Atlantic Strike Team, SATA, and ERRS personnel arrived on-site during the week of March 2, 1998. Initial site start-up activities took place in the first week. The OSC established a temporary command post in the Franklin Smelting offices while awaiting the arrival of office trailers. The OSC also conducted a site tour and briefing with on-site contractors. The OSC spoke with the president of Franklin Smelting, Mr. Michael Saltzburg, to coordinate the removal of some of the non-contaminated and recyclable products from the site. The USCG personnel were recognized by the EPA OSC as the site health and safety officers. ERRS site start-up activities included the installation of 24-hour site security, mobilization of a guard trailer and restroom facilities, and the mending of and repairing of site fencing to deter any trespassers from entering the site to retrieve valuable recyclable materials. During a rain event, an assessment was conducted to determine the possibility and areas of offsite migration of contaminants via surface water runoff. SATA and ERRS site start-up activities included site mapping and cataloging of materials on-site.

March 2 through 7, 1998

During the week of March 2, 1998, the OSC requested historical air analytical data for the Franklin Smelting Site from the Philadelphia Air Management Division (PAM). The request was to obtain background information from cyclone and high-volume air samplers located around the site. A PRP contractor arrived on site to claim the Shredder unit. Samples collected by SATA from the Shredder unit revealed high concentrations of lead and other heavy metals, indicating that the machine must be properly decontaminated prior to its removal from the site. Based on this determination, ERRS began preparation of a shredder decontamination work plan. The OSC also conducted press interviews and provided video footage for a site summary news report.

ERRS activity also included the arrival of office trailers and installation of power and phone lines. SATA and ERRS also began mapping and inventorying the process buildings and acquiring contractors for fence repair. SATA, USCG, and ERRS met to establish site work zones, decontamination zones, rally points, and to update the site map. Also during the week of March 2, 1998, SATA, USCG, and ERRS personnel on site received baseline blood tests for lead, which are required by OSHA for personnel working on a lead removal sites. SATA activities included video-documenting the north yard, collecting drum samples to determine the type and quantity of Arsenic present in the material, air monitoring with Personal Data Rams (PDR), and developing air sampling and monitoring strategies to monitor the potential exposure to workers on the site and potential off site migration of contaminants during onsite operations.

March 9 through 12, 1998

A representative from PAM, Satish Suri, was on site the week of March 9, 1998, to meet with OSC Fox to discuss the location of city air sampling air data, historical and future sampling

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events, and city ARARs. OSC Fox also met with officials at the Philadelphia Water Department's (PWD) northeast Treatment plant to discuss site plans and operations. The OSC also instructed SATA to collect two dust samples from inside the common areas of the fan rooms that were located in the both the sludge thickening and digestion buildings located adjacent to the site. The samples were sent to a laboratory for analysis. The week of March 9, 1998, OSC Fox and EOSC Lapsley actively worked on the development of a consent order to issue to Franklin Smelting President Michael Saltzburg for the removal of hazardous substances from the site.

During the week of March 9, 1998, ERRS established and constructed a CRZ for all north side operations. A work plan for drum over-packing operations and decontamination of the Shredder unit was also completed. PECO arrived on site to ensure the disconnection of power from all unnecessary locations. SATA and USCG completed a survey report and submitted it to the OSC. The report identified the off-site migration points for both the north and the south sides of the site. The report was given to ERRS so that a work plan could be written to address the concerns. SATA contacted the PWD's northeast treatment facility to obtain the plant discharge regulations along with the discharge permits. SATA also completed a radiation survey of approximately 60 percent of the south yard.

March 16 through 20, 1998

Superfund Removal Branch Chief Dennis Carney was on site this week to tour the site, observe operations, and discuss PRP and financial options with the OSC. OSC Fox, OSC Boyd, SATA, and ERRS attended a meeting at the PWD's northeast treatment plant to discuss the analytical results for two samples collected from two buildings on the PWD property. Analytical results revealed elevated levels of arsenic, cadmium, copper, lead, and zinc. PWD agreed to cooperate with cleanup actions that EPA committed to perform in Area 5 fan rooms A through D located in the sludge thickening building, and the fan rooms located in the digestion building.

ERRS activities in the north yard this week included over-packing 29 drums of arsenical flue dust and collecting 29 composite samples from debris piles located on site. ERRS staged 126 over-packed drums in the north warehouse garage. To date, 150 55-gallon steel drums were over-packed into 126 55-gallon, steel over-pack drums. ERRS also began decontamination operations for the shredder unit by hanging tarps and using a water spray for dust suppression. A fog spray was used during all work operations to stop dust from migrating off site. The USCG and SATA conducted real-time air monitoring in work zones and the perimeter of the site using PDRs and stationary data rams (DR), mini-rams, and SKC personal air sampling pump units. The USCG and SATA also obtained copies of PGW (which is adjacent to the facility on the south side property) air emergency evacuation plans. Both SATA and OHM structural engineers were on site to conduct an assessment of the structures located on site.

March 23 through 28, 1998

OSC Fox, EPA Air Protection Division representative James Hagedorn, and SATA met with representatives from PAM to discuss using PAM's existing air monitoring stations, located in the area of the site, to monitor potential off-site migration during removal activities. PAM agreed to split the air samples (which runs on a 6-day sample schedule) with SATA after the filters are weighed. Mr. Michael Saltzburg, Franklin Smelting President and the owner of the Shredder

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unit were on site to discuss the completion date decontamination operations and the materials present in the pile locations on site. OSC Boyd, Agency for Toxic Substances and Disease Registry (ATSDR) representative Jack Kelly, EPA Public Relations representative Dave Polish, SATA, ERRS, and USCG attended a meeting at PWD's northeast plant, with PWD safety officers, facility management, a city industrial hygienist, a Union representative, and PWD workers to discuss cleanup operations in Area 5 (fan rooms). They discussed the sampling performed at the PWD and analytical results from the sampling events, and a question and answer period was entertained. PWD's reception of EPA's involvement and operations at Area 5 was favorable. A company called Vibrations Inc., claimed and removed the vibration sensor located in the process building on the south side of the site after it was decontaminated.

An ERRS generator and bolt cutters were stolen from site during the week of March 23, 1998. A police report was filed with the 24th and 25th police districts. ERRS north yard activities included the decontamination of the shredder unit and packing any contaminated bulk materials recovered from this area into cubic yard nylon tote bags that were staged on pallets, on site. Approximately 20 tons of contaminated bulk material was removed from the shredder unit. ERRS began cleanup operations in the PWD Area 5, sludge thickening building, and the fan Rooms, using HEPA vacuums. Fan room D vacuuming was completed and pressure-washing began in fan room D. ERRS collected wastewater into drums from PWD Area 5. SATA sampled wastewater that was generated from the pressure-washing operations in PWD Area 5. An ERRS subcontractor was on site to repair perimeter fencing. ERRS cleared biohazardous (condoms and hypodermic needles) materials from Balfour Street, which is immediately adjacent to the north side of the Franklin property and placed them in over-pack drums for disposal. ERRS over-packed a total of 315 drums to date and pressure washed them in the north warehouse garage. SATA and USCG continued perimeter and work zone air monitoring and air sampling during ERRS operations. SATA video-documented pre-cleanup conditions of heating coils in fan rooms C and D. OSC Boyd, USCG, and SATA discussed the fate of materials stored in common rooms between the fan rooms. Boxes and filters would be salvaged, if possible; if not, they would undergo disposal. SATA received analytical results from the PWD particle-size samples and, after research and consensus from USCG, OSC BOYD, ERRS health and safety officer and SATA, determined that the level of PPE (Level "C") used during PWD operations is providing adequate protection from particulate exposure.

March 29 through April 1, 1998

ERRS drum over-pack operations were completed on March 28, 1998. Approximately 315 drums were over-packed, pressure washed, and staged in the north warehouse. Shredder decontamination operations continued with the ERRS crew pressure-washing the interior of the unit. Approximately 20 tons of materials were removed, and operations were 90 percent complete. ERRS cleanup operations at the PWD continued in Area 5, in fan rooms C and D, and in the sludge thickening building. The fan rooms were vacuumed with HEPA vacuums, pressure washed, and hand cleaned with a biodegradable cleaner. Wastewater generated throughout the cleanup process was collected and discharged into a designated manhole that cycles the water into the PWD facility for treatment. ERRS installed gutter buddies to control the off-site migration of contaminants into the storm water system. Bales of hay and absorbent boom were placed at all migration points to control sediment discharge via surface water runoff. ERRS began moving pile P004 and staged it in front of the loading dock to gain access to the shredder

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unit. Empty drums were also removed from the pile prior to movement and staged for future disposal. A power sweeper was mobilized to the site for dust control purposes in the decontamination area, the support zone, and the hot zone. The ERRS fencing subcontractor continued to repair areas in the perimeter fence located in both the north and south areas of the site to reduce the potential for trespassing. SATA and USCG continued air monitoring and sampling at both PWD and Franklin north side operations. Units deployed include three DRs, four PDRs and SKC pumps for task-specific personal air sampling. SATA continued to coordinate with the structural engineer to complete the structural engineering report. Analytical results were received for the personal air samples on March 30, 1998. The results were within the parameters established for Level "C" PPE.

April 2 through 4, 1998

Shredder decontamination operations continued with ERRS pressure washing the inside of the shredder building and the outside conveyor. The operation was 95 percent complete and approximately 20 tons of materials were removed to date. Cleanup operations continued in Area 5 of the sludge thickening building located on the PWD property. The ERRS crew completed cleaning the two motor control centers (MCC). The areas were vacuumed, dusted, and mopped to remove dust. The ERRS crew also began cleaning off the inventory that was staged in the common areas throughout Area 5. ERRS vacuumed out the material and disposed of those that appeared to be in bad condition with the full approval of the PWD plant manager, Bill McKeon. An open bag of unknown material was discovered in the common area between fan rooms A and B. Because the bag was open and contained friable insulation, there was a concern that it may contain asbestos. It was later determined, by flipping over the bag, that the material was labeled as being asbestos free. ERRS double bagged and disposed of the material as dry industrial waste. ERRS has disposed of 14 drums of wastewater in the PWD treatment system to date. ERRS continued to use the street sweeper as a means of dust control on site and also continued to stage and segregate pile P004 to gain access to the shredder unit. ERRS began moving piles P005 and P006 and continued to crush empty drums with the excavator. The piles are being staged in front of the loading dock. Water was applied to the piles and equipment paths to minimize the amount of dust that was generated on site. On Thursday, April 2, 1998 a representative for the foam vendor was on site to train some of the ERRS crew on ConCover® 180 spraying techniques. The foam was applied to the tote bags on the north fence line that contain flue dust. The foam is being used on site to minimize the threat of the migration of contaminants off-property. The ERRS fencing subcontractor continued working on the repairs to both of the north and south side yards to reduce the potential for trespassing on-site. Personal air samplers were also used for task-specific operations in both the north yard and PWD cleanup operations. SATA continued to work on the structural engineering report with ERRS Structural Engineer Roger Hyde. Analytical results for personal air monitoring were received on April 1, 1998. The results were within the parameters established for Level "C" PPE.

April 5 through 7, 1998

ERRS completed decontamination of the shredder unit and began moving and clearing piles from its base for the removal of the unit off site by the owner. Cleanup operations at PWD continued with ERRS decontaminating boxes in the common room. The OSC was given permission to dispose of any materials being staged in the common area that could not be

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effectively decontaminated as part of the vacuuming operations. Vacuuming and pressure washing operations were completed in fan rooms C and D. ERRS continued to relocate and consolidate compatible piles in the north yard. Pile P024 was consolidated with pile P019, piles P020 and P021 were consolidated together, and pile 007 was moved from the base of the shredder and consolidated with piles P002 and pile P025. ERRS continued to apply ConCover® 180 to tote bags along the PWD fence line and piles located in the north yard of the site. The ERRS sample technician began hazardous categorization (HazCat) of samples collected from unknown drums on the Franklin Smelting Site. ERRS installed a geotech material along the PWD fence line. The ERRS fencing subcontractor completed working on repairs to the perimeter fence of both the north and south sides of the site. Razor wire was installed on the fencing to reduce the high potential for trespassing. The health and safety officer for PWD was on site accompanied by a city representative from Risk Management Division to receive an update on PWD operations and copies of all of the data ram, personal data ram, and the personal air sampling data collected from PWD. SATA and USCG continued air monitoring and sampling in both of the work zones at PWD and in the north yard at the Franklin Smelting Site. Four PDRs and three DRs were used to monitor both operations. The structural engineering report has been completed and is awaiting final approval and signature from structural engineer Hyde. SATA drafted a map of the CRZ for the north yard operations. Analytical results were received, on April 6, 1998 for the air samples collected on site. The results were within the parameters established for working in Level "C" PPE.

April 8 through 10, 1998

ERRS north yard activities included removing debris from the base of the shredder unit and ConCover 180 application operations which included staging the tote bags and piles in the north yard to mitigate the potential for off site migration of contaminants. Cleanup operations at PWD continued. ERRS completed the operations in fan rooms C and D. The ERRS sample technician completed HazCat of unknown drum samples collected from unknown drums located in the north yard.

April 11 through 15, 1998

OSC Fox conducted an inter-agency meeting to discuss future planning for the Franklin Smelting property. Represented at the meeting were EPA management, PADEP, OSHA, City of Philadelphia, PWD, and the Philadelphia Fire Department.

ERRS continued ConCover 180 application operations on site. All of the piles and tote bags in the north yard were covered to mitigate the potential for materials to migrate. ERRS continue to wet down and clear all on-site roadways for dust suppression and maintain the cleanliness of the shredder unit for dismantling and removal purposes. ERRS continued to consolidate piles and materials in the north yard. Cleanup operations at the PWD continued with the completion of operations in fan room E-4, and beginning operations in fan room A and the common area of A and B. SATA collected split samples from PAMs air stations for sample identifiers PGW, ITO, NEL, NLC, NET, and NTC located around the site. The samples were sent to a laboratory to be analyzed for priority pollutant (PP) metals.

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April 16 through 19, 1998

ERRS continued the operations of moving drums from the storage area, consolidating them in the north yard, and continued the decontamination of the Harris Shear II and the bailer. Cleanup operations at PWD continued with the completion of operations in fan room B and the vacuuming and disposing of boxes and cleaning in the common area of Fan Rooms A and B. ERRS continued to consolidate piles and materials in the north yard and maintain the cleanliness of the area around the shredder unit for dismantling and removal purposes. ERRS continued to wet down and clear all on-site roadways for dust suppression. SATA began measuring and calculating the volume of the piles in the north yard to obtain an estimate of the amount of materials that may require disposal as part of site removal activities. SATA received split sample volume information from PAM for the samples that were collected from area air samplers.

April 20 through 22, 1998

PRP was on site to meet with OSC Fox to discuss the removal of the bailer from the site. The Torit baghouse on the south side was also inspected for a potential buyer. SATA met with a representative from the City of Philadelphia's Risk Management Division, Mr. Ken Librizzi, to review all dust monitoring and sampling data techniques, a representative of the Fire Department Water Operations Department, Carlo Decesar, regarding the use of the fire hydrants for dust control and suppression, and a PWD official to determine the end points of the storm water and sanitary sewer lines. SATA also received analytical results from sample BST-1 collected from the trailer bed on Balfour Street. Analytical results revealed a lead concentration of 110,000 parts per million (ppm) and a cadmium concentration of 7,200-ppm in the sample matrix.

Cleanup operations continued in the fan rooms at PWD. The ERRS vacuumed and disposed of boxes and filters in the common areas of fan rooms A and B. The ERRS crew continued to use water to suppression dust on site and continued working on the decontamination of the screener unit and the Harris Shear II and maintaining the cleanliness of the shredder unit for removal purposes. ERRS also decontaminated the water truck, which was claimed and removed by MDC corporation. ERRS removed the open-top drums of scrap material from the storage area and bulked them into the piles in the north yard. ERRS program manager, Marsha Robinson, was on site to deliver the work plan for the demolition and stabilization work that was performed on the south portion of the Franklin Smelting property. SATA completed pile and tote bag volume estimates in the north yard and constructed schematics of the sludge thickening building and a general description of the fan rooms.

April 23 through 25, 1998

OSC Fox spoke with Mr. John Hadalski, City of Philadelphia Managing Director, to update him on the site status and to establish a clear line of communication between the EPA and the city. Pollution reports (Polrep) will continue to be faxed to the managing director's office and then distributed them to the various city agencies. EPA, ERRS, USCG, and SATA met to discuss the proposed work plan for the south side yard of the Franklin Smelting facility. EPA and SATA expressed concern for the location of the CRZ, which is suggested to be in the smelter building. It was decided that the CRZ would be relocated along the fence line of PGW at the west end of

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the site. Representatives from MDC, the facility adjacent to the south fence line of the north yard, claimed and removed the decontaminated water truck from site. SATA contacted Drew Mihocko, PWD Waste and Storm Water Collection Department, regarding storm drains along Castor Avenue. Mr. Mihocko informed SATA that all storm drains in that area feed into a large central line that empties into the Delaware River. SATA informed the OSC of the findings and was instructed to collect samples from the storm drain line before, at, and after the site to determine if any Site contaminants are migrating off site into the storm drain.

ERRS cleanup operations continued at the PWD. The common area of fan room A was decontaminated. ERRS continued to keep the shredder unit area clean for dismantling and removal purposes and completed the decontamination of the screener unit and continued cleaning the Harris Shears II. The ERRS sample technician investigated the UST in the north yard support zone.

April 27 through 28, 1998

Franklin Smelting President, Mr. Michael Saltzburg was on site to meet with OSC Fox to discuss site operations and the removal of equipment not owned by Franklin Smelting. Mr. Saltzburg gave EPA consent for American (AGIP) to remove two oil tanks and for DASCO to remove its bailer.

EPA, ERRS, and SATA continued preparation for dismantling the stack on the south side of the site. Two crane subcontractors were on site to discuss stack demolition and to inspect the stack for bid preparation. ERRS structural engineer was on site, and he determined that the height of the stack was calculated at 135 feet. Work plan ideas continued to be finalized. An ERRS plumbing subcontractor was on site to hook up the water line and meter on the south side in preparation for operations to begin. Cleanup operations at PWD continue. ERRS completed decontamination activities in the common area of fan rooms A and B and began preparing for cleanup operations in the ozone motor room. ERRS continued to apply dust suppression techniques on and off site and maintain the area in and around the shredder unit for dismantling and removal purposes. ERRS completed decontamination of the Harris Shear II. The Suburban Gas Company collected three propane cylinders. J. F. Martin Inc., collected 11 cylinders, a mixture of oxygen, acetylene, and propane. The Pennsylvania Welding Supply collected one empty argon cylinder. ERRS investigated the backfill pit located in the central north yard. Four test trenches were dug, and the bulk of the material consisted of black granular ash materials (visible at the surface) and was present at depths as great as 7 feet. Groundwater was present in the trenches at depths between 3.5 and 7 feet. SATA videotaped the trenching operations, and collected two composite samples to be analyzed for target analyte list (TAL) metals and TCLPs.

April 29 through May 1, 1998

EPA, ERRS, USCG, and SATA continued preparation for dismantling the stack on the south side of the site. The third crane subcontractor was on site to inspect the stack for bid-preparation. The plumbing subcontractor was on site to continue hooking up water lines and meters for south side operations. The installation of the meters was inspected by the PWD Metering Division. PECO design and construction consultants were on site to inspect the power lines along Castor Avenue and to discuss safety precautions that could be taken during

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demolition operations. A Bell Atlantic representative was on site to inspect the phone lines running into and along the south yard of the Franklin Smelting facility. The most probable measures that were taken was disconnecting the lines running into the south yard and wrapping the loose wires near the entrance of the south yard. PWD supplied detailed storm water and sanitary line drainage blueprints and offered assistance during the storm water drain sampling event to take place after a rain event. Cleanup operations in PWD's sludge thickening building were completed. The ozone room and main hall were washed and vacuumed. Preparations began for cleanup of the sludge digester building. Operations were carried out in an explosion-proof manner due to the methane content inside the building. ERRS demolished the pumphouse and related unstable structures attached to Harris Shear I. ERRS began to decontaminate the Harris shear I and contain hydraulic fluid that had spilled during cleanup operations. An ERRS engineer drafted work sketches with measurements and elevations of the scrubber stack. The engineer also began the specific piece-by-piece investigation of stairs, elevated platforms, and elevated walkways for worker safety.

SATA sent out two personal air samples and two samples from the excavation area to be analyzed for PP metals. USCG and SATA performed a survey using a combustible gas indicator (CGI) prior to operations beginning in the sludge digester building located on the PWD facility. The CGI indicated lower explosive levels (LEL) as high as 18 percent. SATA and USCG continued air monitoring and sampling in both the work zones and the site perimeter. Units deployed were two DRs, split between operations at Franklin and PWD; four PDRs also split between PWD and Franklin operations; and task-specific personal air sampling with SKC pumps.

May 2 through 8, 1998

Franklin Smelting president, Mr. Saltzburg was on site this week and gave the OSC permission to scrap all the trailers in the south yard.

An ERRS engineer inspected stairs, handrails, and platforms on the south side of the site to determine areas of concern for worker safety. Unsafe access areas were restricted with caution tape. Safe sections were painted green and unsafe sections were painted red. ERRS cut down dead power lines and phone lines in preparation for scrubber stack demolition and set up water lines to supply water to south side of the site. ERRS awarded the crane bid and mobilized two cranes for dismantling the scrubber stack. On Thursday, May 7, 1998, ERRS brought down the top 60-foot section of the stack. The walkway between the scrubber stack and baghouses 7 through 11 was removed, and the lower 60-foot section of the stack was rigged for dismantling. Air monitoring data taken during dismantling operations revealed no elevated dust concentrations. During a site tour, SATA discovered leaking PCB-containing oil from the electrical building by baghouses 7 through 11. ERRS stabilized the leaking oil, installed a quick-dry berm, and pressure washed the area. ERRS completed decontamination of Harris Shear II. SATA assisted ERRS with set-up preparations on the south side of site by identifying trailers and other structural items in and around the converter building and mapping the identified items. ERRS cleanup crew began operations in supply fan 1, located in the sludge digester building, on the PWD facility this week. Fan rooms were hand washed because HEPA vacuums are not guaranteed to be intrinsically safe and could not be used in a potentially explosive atmosphere. PWD northeast plant manager McKeon gave OSC Boyd permission to discharge wastewater,

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from cleanup activities into the floor drains located in the sludge digester building. ERRS generated a total of three drums of dust and 41 drums of wastewater, which were discharged into the treatment system. As of Friday, May 8, 1998, 10 rooms were cleaned out. USCG Perry and SATA conducted monitoring with a CGI as a precautionary measure. No levels above background were recorded. PWD personnel were on site to open manholes for storm drain system on Castor Avenue for the SATA sampling event after a morning rain. SATA collected three samples: up-gradient of the site, adjacent to the site, and at the intersection of Castor and Delaware avenues. SATA and the ERRS health and safety officer met with PGW representative to inspect gas lines running into the south yard of the site and to determine if any active gas lines are present on site. PGW will research blueprints and return to inspect the site. SATA collected a personal air sample from ERRS personnel performing cleanup operations in the sludge digester building.

May 9 through 13, 1998

Franklin Smelting president, Mr. Saltzburg was on site and gave OSC Fox permission to demolish and scrap all the trailers in the south yard; he stated that they had no value. SATA witnessed and documented the meeting. DXR representatives were on site and picked up their x-ray machine. ERRS crew assisted with the removal of the equipment. All activities on this matter were conducted with the permission of Franklin Smelting President, Mr. Saltzburg.

PWD cleanup operations were completed on May 9, 1998, pending the confirmation of the laboratory analytical results, which were expected on May 18, 1998. All of the EPA operations at PWD were conducted in the sludge thickening building, sludge digester building and along the fence line closest to the Franklin Smelting Site. ERRS set up a temporary CRZ inside the former oxygen plant located on the south side of the site until the trailers were cleared. ERRS cleared out the debris from the office trailers. The debris material was loaded into roll-off boxes for disposal. The operators demolished three of the six trailers while segregating the scrap metal from the debris. Four 40-yard, roll-off boxes were loaded with non-hazardous construction debris. ERRS transported the dismantled stack, scrubber, and walkway to the north yard. The items were staged behind the shredder unit. Two trailers on Balfour Street, which belonged to Franklin, were also hauled into the north yard and staged next to the shredder unit. The ERRS crew began pile consolidation and staging operations in the south yard. SATA collected seven air samples from the areas in PWD. The samples were sent to a laboratory to be analyzed for PP metals. The samples were collected in areas where supply ducts, connected to the supply fan system, were located. The USCG also conducted air monitoring for particulate data from selected rooms at PWD. The analytical results for three aqueous samples, collected from the storm water drainage system that runs along Castor Avenue, were received. The data revealed that site-associated contaminants were not contributing to any contamination in the storm water drain system. The levels of PP metals were actually higher up-gradient from the site than along or below the site. SATA collected one disposal sample from the tote bags located in the south yard and one sample from the excavation area from the north yard at the request of Franklin Smelting President, Mr. Saltzburg. Analytical results were received for personal air samples, that were collected from the crane operators during the stack removal operations. They revealed only minute concentrations of lead over an 8-hour period.

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May 15 through 19, 1998

OSC Fox contacted the EPA Headquarters Region III Coordinator, Roxanne Mero, to update her on the site conditions and on-going removal operations. A Draft copy of the additional funding request was also sent to Mrs. Mero's attention. PWD analytical results for seven air samples, collected after cleanup operations were completed, were received and reviewed by the OSC. Based on the results of the aggressive-sampling event, no further EPA action is necessary. An ORIX subcontractor discussed removal and decontamination plans for the Torit baghouse with the OSC. A detailed work plan would be submitted to the OSC prior to the beginning of operations. ERRS health and safety officer, USCG, SATA, and the OSC discussed plans for a permanent, large-scale CRZ to support operations in the south yard. The CRZ was installed in the oxygen plant building and on the concrete pad where the trailers had previously been located.

ERRS decontaminated and demolished all six of the office trailers located in the south yard. The scrap metal from the demolition operations was segregated from the debris. The debris was then laded into 16 40-cubic yard roll-off boxes and hauled off site as non-hazardous industrial debris. ERRS cleared out and hosed down the weld shop, locker room, break area and vat room in the transfer building. ERRS continued to set up the support zone in the south side yard, and PECO and PWD continue to work with ERRS to hook up water and electricity to the south yard.

May 20 through 26, 1998

A representative from the City of Philadelphia Streets Department was on site to provide the OSC with traffic sign suggestions and regulations for posting removal signs on Castor Avenue during work hours throughout the removal action. SATA and ERRS will work on obtaining the correct signs for site operations and traffic concerns. A representative from PGW was on site May 20, 1998, to meet with SATA, the ERRS health and safety officer, and ERRS to discuss and mark the location of the gas lines on the south side of the site. ERRS continued the preparations for the construction of the CRZ on the south side of the site.

ERRS collected samples from the fiberglass-reinforced plastic (FRP) tanks located on the south side of the site and conducted a HazCat test to determine the type of material present. ERRS began moving tote bags from the south side of site and staging them in the north yard and continued to apply water for dust suppression. ERRS mobilized a new sweeper, drums, and an ice machine and grounded a fuel tank located on the south. ERRS and SATA collected samples from the Torit baghouse for ORIX, the owners' contractor. ERRS demobilized two, 40-cubic yard roll-off boxes, full of construction debris from the site, and an ERRS electrician was on site to install electrical power to the south side of the site. Electrical permits for the hook up were approved on May 26, 1998. SATA collected two samples from transformers located in the electrical room on the south side of the site. A field-screening test indicated that primarily PCB-containing oil was in the transformers. SATA collected four soil samples, two surface samples, and two subsurface samples from area P055. The samples was analyzed by an ERRS contracted laboratory. SATA sent two personal air samples and two air samples that were collected from PAM's May 11, 1998, sampling event to a laboratory for analyses.

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May 27 through 30, 1998

OSC Fox, Enforcement OSC Lapsley, ORC representative Goldman, and SATA met with Mr. Saltzburg and his lawyers, on Thursday, May 28, 1998, to discuss the draft consent order issued to Franklin Smelting and to establish new timelines for the removal of materials from site. The Torit baghouse contractor, ORIX, was on site to inspect the baghouse and to estimate removal costs.

ERRS completed setting up the south side CRZ and continued relocating tote bags from the south side that are being staged in the north yard. ERRS performed maintenance in the north yard, recovered piles with poly sheeting, continued to apply water on site for dust suppression, and used a sweeper for site maintenance. ERRS continued clearing out the alleyway between the converter and transfer buildings and around the Torit baghouse. ERRS continued cleaning out the vats located on the south side of the site. Holes were cut in the vats, and the material inside was placed in drums; then transported and staged on the north side of the site. The ERRS health and safety officer monitored the area around the vats, using a micro-tip to determine if Level "C" PPE was providing adequate protection for personnel working in the area. The ERRS electrician installed lights on the south side of the site and the ERRS health and safety officer monitored the vital signs of the crew for heat stress during work hours. ERRS cut piping from on top of the maintenance shed, and the ERRS sample technician began draining the PCB-containing oil from the transformers into drums and staged the drums on the north side of the site.

SATA and ERRS inspected the drums staged in the warehouse and found one drum to be leaking a substance with a pH of 4. SATA determined that 24 of the 300 drums are rusting and the contents inside are beginning to leak. SATA marked the leaking drums and spread quick dry around them to absorb the liquid. These drums were closely monitored, and transportation drum disposal and recovery options will be discussed. SATA collected four personal air samples that were shipped to Data Chem, in Cincinnati, Ohio for analysis. SATA and USCG continued air monitoring and sampling in both the work zones and the site perimeter. Units deployed were two DR's, split between operations at Franklin and PWD; four PDR's, also split between PWD and Franklin operations; and task-specific personal air sampling with SKC pumps.

June 1 through 3, 1998

OSC Fox and OSC Boyd met with Franklin Smelting president, Mr. Saltzburg, to discuss site operations, reinforce dates and deadlines, and tour the structures and areas on the south side of the site slated for demolition. The OSC explained the reasons for the dismantlement and the methods for scrap metal removal. Mr. Saltzburg requested that the support structures and the crane in the converter building remain after demolition. OSC agreed to consider the request and if operationally feasible, those structures will remain. Mr. Saltzburg informed the OSC that the piles in the converter building are like materials and can be combined. He also said that he had no knowledge of the gas main feeding directly into the south side of the site. OSC Fox contacted the EPA ORC to discuss changes and updates to the additional funding request and to discuss the status of the draft consent order issued to Franklin Smelting. A representative from Tanner Industries was on site on June 2, 1998, to inspect the anhydrous ammonium tank. After inspecting the tank, the representative stated that no liquid was present in the tank, and he believes that the gauge is not working. The pressure relief valve was left open, and if residual

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vapors are in the tank, they are present in low quantities and do not pose a health threat. No further action is recommended. A representative from PGW was on site on June 3, 1998, with a two-man work crew to examine the gas connection from the main line to the site. The representative confirmed that gas service from the main line has already been shut off, due to lack of payment. The representative informed the ERRS health and safety officer and SATA that PGW is not responsible for disconnecting and bleeding the lines in the building. The OSC was notified by a PECO representative on June 3, 1998, that plans to relocate the electrical lines on Castor Avenue were delayed for 2 weeks due to storm damage cleanup.

The ERRS crew continued to relocate the steel moldings and ingots and the scrap from the converter building to the north yard and to perform general maintenance in the north yard. A street sweeper was used and an ERRS cleaned out the gutter buddies that were installed in the storm water drains located on Castor Avenue. ERRS crew demolished the concrete pad under baghouses 14 through 19, and the excavated material was stored in a pile in the converter building. The ERRS plumbing subcontractor was on site to complete the waterline connection that would supply water to the south side of the site. ERRS still needed to install a heat box and a water meter before the connection would be complete. The ERRS sample technician collected samples from the leaking drums located in the warehouse and sent them off for disposal analysis. SATA and ERRS would monitor the drums on a daily basis, and a containment cell would be constructed if conditions worsen. The ERRS electrician was on site to continue installing lights on the south side of the site, and a vendor was also acquired to purchase traffic and safety signs to be displayed on Castor Avenue during site working hours. ERRS received the sample results for surface and subsurface samples collected from the south side trailer area. The samples were analyzed for TCLP and TAL metals, and the results indicated total and leachable lead levels above site removal guidelines at the surface and at a depth of 2 feet in the samples locations. This area would be addressed at a later date. ERRS inspected baghouses 20 through 23 and the ductwork for baghouses 14 through 19. No filters were observed in baghouses 20 through 23 and they should not present difficulty during cleanup operations. The ductwork in baghouses 14 through 19 has approximately 15 inches of compacted dust in the duct. The ERRS health and safety officer notified a local clinic of site activities and the potential for minor injuries to be handled at the facility.

June 4 through 8, 1998

ORIX subcontractors were on site on June 8, 1998, to inspect the Torit baghouses for removal.

The ERRS crew pumped two transformers from the electrical building into 10 PCB-containing drums. Four diesel flush drums and two drums with absorbent material were generated and staged in the warehouse. The ERRS crew also continued cleaning up in the converter building by bagging and transporting the material to the north yard. Flagmen were used for traffic control while transporting materials from the south side of the site across Castor Avenue to the north yard. ERRS crew relocated the steel moldings and ingots from the converter building to the north yard and continued to remove cement and firebrick from the three steel ladles in the converter building. Scrap metal was also transported and staged in the north yard. ERRS continued to perform general maintenance in the north yard. A street sweeper was used to clean the north yard, Castor Avenue, and Balfour Street to control off-site migration of surface water runoff. The ERRS electrician was on site and continued installing lights on the south side of the

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site. The electrician also installed a heat box for the dust suppression system. USCG and the ERRS health and safety officer organized the oxygen building CRZ with a labeling system for proper decontamination procedures. SATA received the analytical results for personal air samples collected during on-site operations in the sweeper; the data showed that airborne contaminant levels were well below PELs.

SATA also received the analytical results for the high-volume spilt air samples from PAM air samples taken on May 5. The results were below the action levels established for the site. SATA and USCG continued air monitoring and sampling in both the work zones and the site perimeter. Units deployed were two DRs, split between operations at Franklin and PWD; four PDRs, also split between PWD and Franklin operations; and task-specific personal air sampling with SKC pumps.

June 9 through 11, 1998

An additional funding request and exemption to the 12-month statutory limit, incorporating comments from the ORC, was issued to EPA headquarters for concurrence on Tuesday, June 9, 1998. EOSC Lapsley and ORC Goldman were on site this week to meet with OSC Fox and tour the site. ORC Goldman and EOSC Lapsley confirmed that the EPA would handle the removal of all hazardous materials from the site. Franklin Smelting has until Monday, June 15, 1998, to address the removal of non-hazardous scrap metal, or EPA will dispose of it. The ORIX subcontractors were on site this week to inspect the Torit baghouses for the preparation of a bid for their removal.

The ERRS crew continued to cleanup the converter building, bagging the material and transporting the bags to the north yard. Flagmen were used for traffic control, while transporting materials from the south side of the site across Castor Avenue to the north yard. Approximately 100 cubic yard tote bags were generated and staged during the converter building operations to date. ERRS mobilized a 350 excavator with shears to conduct future demolition operations, and mobilized a vacuum-loader vacuum unit for the decontamination of buildings on site. ERRS personnel received on site training on vacuum-loader operations and health and safety. ERRS continued to perform general maintenance in the north yard. SATA and ERRS continued to monitor the over-packed drums of arsenical flue dust on a daily basis and determined that an additional drum showed signs of leakage, bringing the total number of leaking over-packed drums to 28. Sorbent material was added and applied where necessary.

June 12 through 15, 1998

OSC Fox met with Franklin President, Mr. Saltzburg, this week. Mr. Saltzburg stated that they would not participate in the removal of the non-hazardous scrap materials from the site due to the progress that EPA's contractors have made in this effort. Representatives from Noranda, a Canadian mining and copper-smelting firm, were on site to inspect piles and tote bags in the north yard. They also explored options for the removal and reclamation of the materials. EPA, USCG, and SATA began reviewing work plans for the decontamination and removal of the Torit baghouses by an Orix subcontractor.

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The ERRS crew began vacuum operations with a 522 vacuum-loader in the Converter building and continued bulk consolidation and bagging of the material on the floor. A man-lift was used for the vacuuming of the upper walls and rafters. Flagmen were used for traffic control while transporting materials from the south yard of the site across Castor Avenue to the north yard. Approximately 158 cubic-yard tote bags were generated and transported to the north side of the site. ERRS began power washing and loading the non-hazardous scrap metal which were staged on both the north and south yards, into roll-off boxes for reclamation. Nine roll-off boxes were removed from the site to date. ERRS continued to perform general maintenance in the north yard and the ERRS electrician continued working on the electrical hook up for the south side of the site. SATA and ERRS continued daily monitoring of the over-packed drums of arsenical flue dust stored in the warehouse. Sorbent material was added and applied where necessary. Disposal of these materials has been expedited and waiting on analytical results.

June 16 through 18, 1998

The OSC accepted the work plan from the ORIX consultant for the decontamination of the Torit baghouses. The start date for the decontamination work has yet to be determined. Decontamination will take place on site and is not to interfere or delay with ERRS cleanup operations on site. OSC issued a memorandum to ERRS listing the requirements specified by EPA's ORC for the reclamation and sale of the materials from the Franklin Smelting Site. A copy of the memorandum was sent to the EPA ORC. American AGIP pumped out 622 gallons of oil for reclamation from its tank on site. The oil had been sampled, and field hazard Categorization tests were performed to ensure that the oil had not been contaminated. The tanks were then moved out of the garage and staged in the north yard for the decontamination of the outside surface.

ERRS pressure washed the interior of the electrical building containing the PCB-containing transformers. The wash water contained "less than 10," a PCB bonding material. All of the wash water was vacuum removed with a wet vacuum and drummed into five, 55-gallon drums. ERRS continued the gross decontamination of the converter building, generating a total of 177 cubic-yard bags, which were staged and covered with a poly sheeting in the north yard. Vacuuming of the walls and rafters inside the converter building continued. Scrapers and shovels were also used to loosen the caked material in the upper levels of the building. ERRS continued to decontaminate and load scrap metal from both the north and south yards. All the scrap was washed and loaded into 17 roll-off boxes to date. The boxes of scrap metals were taken to a reclamation facility. SATA took the emergency medical technician (EMT) on a detailed tour of the south yard to show him all of the buildings and designated work areas. SATA and ERRS continued daily monitoring of the over-packed drums of arsenical flue dust stored in the warehouse. An additional drum showed signs of leakage, bringing the total number of leaking over-packs drums to 29. Absorbent material was added and applied where necessary. ERRS flagmen, work area signs, and cones continue to be used daily for equipment crossing the road. Task-specific personal air sampling was also deployed for south yard operations. The ERRS transportation and disposal (T&D) coordinator was on site with the analytical data from the leaking drums and drafted the bid package for the disposal of the drums. SATA and USCG continued to deploy air-monitoring instruments on site during removal activities.

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June 19 through 23, 1998

On Tuesday, June 23, 1998, Franklin President, Mr. Saltzburg was on site with a representative from an interested reclamation facility. OSC Boyd and SATA escorted Mr. Saltzburg and his guests during their visit to ensure their safety while touring the site. Representatives from PECO were on site on June 19, 1998, to complete the electrical hook up to the south side of the site.

The ERRS crew continued vacuuming operations in the converter building on the south side of the site. A vacuum-loader was used to cleanup the dust located on the rafters and the upper levels of the converter building. A 60-foot man-lift was mobilized to the site for safely accessing the upper portions of the building. A total of 194 tote bags were generated to date as a result of vacuuming operations. The bags were transported from the south side of the site to the north yard. ERRS health and safety officer, USCG, and SATA monitored the work area in the converter building for carbon monoxide. Elevated levels of carbon monoxide were discovered in the converter building during work operations. The highest levels of carbon monoxide observed were in the upper portion of the building. In an attempt to reduce the carbon monoxide levels, the equipment was switched to run on propane, rather than gasoline or diesel. This effort was not completely effective in reducing the amount of carbon monoxide in the work area, so exhaust hoses were placed on the equipment to vent any carbon monoxide out of the building. In addition, once the equipment was in place, the engines were shut off while work was being done in the converter shed. A second decontamination trailer and a 24-stall shower trailer were mobilized to site and staged on the south side in the support zone. ERRS sample technician collected samples from the 54 piles located throughout the site and sent them to a laboratory for analysis. The ERRS crew also recovered piles located on the north side of the site. Supplies were acquired for the south side CRZ to aid in monitoring the health and safety of the ERRS crew during work operations. The support zone in the CRZ was encapsulated to reduce any dust in the CRZ and to contain cool air during hot weather. SATA received the analytical results for an air sample collected during vacuuming operations in the converter building. The results did not indicate that an upgrade in Level "C" PPE was necessary. SATA continued daily monitoring of the drums staged in the warehouse. Two more leaking drums were discovered bringing the total to 31. Speedy Dry was applied to the areas around the leaking drums to absorb any free liquid.

June 24 through 29, 1998

OSC Fox was informed by ORIX, the owners of the Torit baghouse, that they would not be implementing the decontamination and removal of the baghouse from the site. As a result of this action, the EPA will address the Torit baghouse as part of the removal action. On Thursday, June 25, 1998, visitors from EPA headquarters were on site for a site tour and an update on current site operations. Mr. Saltzburg was on site on Friday June 26, 1998, with his lawyers to discuss the bid process for the reclamation of scrap metal and long-term time-lines for the site with OSC Fox.

On Wednesday June 24, 1998, the ERRS health and safety officer, the EMT, and the USCG conducted an unannounced emergency drill on site to test the emergency procedures and response of on site personnel in the event of an emergency. The ERRS crew continued loading out scrap metal from the north yard into roll-off boxes for reclamation. Thirty-two roll-off boxes

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were transported off site to date. The ERRS crew continued vacuuming operations in the converter building on the south side of the site. ERRS demolished the electrical building on the south side of the site. The transformer carcasses were transported across Castor Avenue and staged on the north side of the site on poly sheeting. Speedy Dry was placed in the carcasses to absorb any remaining oil in the transformers. A small amount of PCB-containing oil was observed during demolition. A Chlor-N-Oil field-screening test was conducted on an oil sample that was collected from a small puddle found in the demolition area. The screening test indicated that the small puddle contained PCB oil. The oil was contained with Speedy Dry and drummed. The ERRS health and safety officer, USCG, and SATA continued to monitor the ERRS work area for the presence of elevated levels of carbon monoxide. The levels stabilized and remained low after a flexible exhaust hose was placed on the exhaust of the equipment. ERRS installed breeze strips in the doorway of the smelter building to reduce the potential for dust particles to migrate off site. ERRS began to pump the standing rainwater that collected in the smelter building and in the south yard. The water is being pumped to the sump located under the concrete pad in the south yard. The ERRS crew strung lights in the smelter building, and the electrician continued to complete the electrical hook up for the south side of the site. ERRS continued to use dust control measures such as water and the street sweeper both on and off site. The ERRS health and safety officer and the EMT continued to monitor heat stress during the hot and humid weather, and the ERRS health and safety officer used two thermal vests in the zone to see if they would reduce the potential for heat stress during operations on hot and humid days. On Thursday June 25, 1998 SATA collected a personal air sample during the demolition of the electrical building. The sample was sent to the laboratory for PP metal analysis. SATA continued daily monitoring of the drums staged in the warehouse. Five more leaking drums were discovered, bringing the total of leaking drums to 36. Speedy Dry was applied to areas around the leaking drums to absorb any free liquid. SATA and USCG continued to deploy air monitoring and sampling devices on site during removal activities.

June 30 through July 6, 1998

OSC, SATA, and the ERRS T&D coordinator conducted a site walk through with Franklin Smelting President, Mr. Saltsburg, and a broker from New York to inspect the bulk piles around the site for a possible bid and removal.

ERRS began demolition of the transfer building, the vat room, and welding shop this week. Two fire hoses directed from a man-lift were used for dust suppression. The 320 excavator performed the primary demolition while the 350 excavator segregated and staged the scrap steel from the demolition debris. The perimeter air monitoring by USCG and SATA revealed that successful dust suppression was achieved during the demolition. ERRS began to wash down areas in the converter building that had been vacuumed. A high-pressure water was used in the cleaning operation. A total of two hundred twelve cubic yard tote bags were generated from the converter building. ERRS crew continued loading out scrap metal from the north and south yards into roll-off boxes for reclamation. Thirty-four roll-off boxes were transported off site to date. ERRS and SATA started logging the scrap metal generated from the demolition operations. Five roll-off boxes of demolition scrap metal were hauled off site. ERRS began to inspect the contents of the over-packed arsenical dust drums and stage them according to drum condition. All over-packed drums that were corroded due to rainwater mixing with the dust would be dried out and then transferred into new over-packed drums. ERRS continued to install

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lighting inside the smelter building and started to consolidate piles in order to prepare for the equipment needed for the smelter building decontamination. Site operations were suspended over the holiday weekend. All gates and fencing were inspected, and all hot zone signs were checked. Security had no incidents to report over the holiday weekend. SATA and USCG continued to deploy air monitoring and sampling devices on site during removal activities. Four PDRs and two DRs were used to determine total airborne particulate matter during site operations. Task-specific personal air samplers are also deployed during each new task.

July 7 through 10, 1998

USCG representative Perry obtained a weather station from the Pacific Strike Team to be used on site to monitor the weather and wind direction.

ERRS continued segregating the construction debris generated from the demolition of the transfer building, the vat room, and the welding shop. Scrap metal from construction debris was decontaminated, placed into roll-off boxes, and sent off site for reclamation. Ten roll-off boxes of scrap metal were generated and removed from site to date. A disposal sample was taken of the construction debris from the transfer building. ERRS continued vacuuming and pressure washing operations in the converter building. A total of two hundred fourteen cubic-yard tote bags were generated from the converter building. ERRS began over-packing operations for the leaking drums of arsenical dusts that were being staged in the warehouse. ERRS crew members pumped the free liquid that was present in several of the drums and placed the drums in 85-gallon over-pack drums. The drums are scheduled for transportation and disposal. ERRS continued to prepare the smelter building vacuum operations. ERRS crew members pumped the water collected in the smelter and cut the piping that was located in the doorway of the smelting building to allow heavy equipment to pass into the building for cleanup operations. They also consolidated piles in the smelting building. The ERRS T&D coordinator received the bids for the reclamation of the bulk piles on site and the zinc oxide in the cubic-yard tote bags. They are being reviewed, and a sub-contract was to be awarded next week. ERRS continued to use the Tenant sweeper and water as a means of dust suppression on site. SATA collected a sample from a hopper located in the smelting building and sent it for analysis at an ERRS laboratory. SATA conducted a lead swipe field test on unwashed metal and bricks generated as a result of demolition operations, and it tested positive for lead. The material was pressure washed, a second swipe test was taken, and the presence of lead was not indicated on the construction debris. SATA completed a total volume estimate of the bulk pile materials present on site. SATA collected personal air samples on Wednesday, July 8, and Thursday, July 9, 1998.

July 11 through 15, 1998

ERRS continued segregating the construction debris generated from the demolition of the transfer building, the vat room, and the weld shop. Scrap metal from the construction debris was decontaminated, placed into roll-off boxes, and sent off site for reclamation. Fourteen roll-off boxes of scrap metal from demolition were generated and removed from the site to date. ERRS continued vacuuming and pressure washing operations in the converter building. Two hundred fourteen cubic-yard tote bags were generated from the converter building. Transportation and disposal of over-packed drums of arsenical dusts began. To date, 232 drums were transported off site. ERRS continued to prepare the smelter building for vacuum operations. Removal of

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sediment and ash in the charging area began. The ERRS crew members continued to consolidate piles and perform gross decontamination inside the smelter building. The ERRS T&D coordinator received the bids for the reclamation of the bulk piles on site and the zinc oxide in the cubic yard tote bags. After contracting officers, approval of the sub-contract was awarded. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. They also began the segregation of PCB transformers and electrical debris for disposal; the debris was generated from the electrical building.

July 16 through 20, 1998

Representatives from American Microtrace (AM) were on the site to inspect the zinc reclamation unit that they had purchased and installed on the south side of the Franklin Smelting property.

ERRS completed the repackaging of the remaining deteriorated and/or leaking drums of the arsenical flue dust. A total of 292 drums were cleaned, labeled, and loaded onto trucks for shipment to CWM Chemical Services Division for disposal. ERRS began to cut access holes into the ductwork inside the converter building and rinsed the duct out to remove the built-up compacted dust particles. They washed down the interior of the converter building and continued to prepare the smelter building for vacuum operation, which began on Monday July 20, 1998. The ERRS crew also continued to remove sediment and ash in the charging shed, and consolidate piles and perform gross decontamination inside the smelting building. The crew worked on the gross decontamination of small objects in the rocking reverb area in the smelter building, and 179 tote bags have generated to date. The ERRS T&D coordinator continued to review the bids for the reclamation of the bulk piles on site and the zinc oxide in the cubic-yard tote bags. ERRS continued to use the Tennant sweeper and water as means of dust suppression on site. ERRS crew repaired the pump on the large water tank that they are using for water supply and dust suppression.

July 21 through 25, 1998

Mr. Saltzburg was on site on Tuesday July 21, 1998, to meet with OCSs Fox and Boyd, SATA, the ERRS response manager (RM), and the ERRS T&D coordinator to discuss the bids for copper reclamation of the piles of feedstock materials and tote bags staged in the north yard. Mr. Saltzburg shared his opinions on the bid process and the shipment of materials off site. Letters of liability were sent out to the entities that bid for the reclamation of the zinc oxide and the secondary smelting materials. The prospective parties had 10 days to sign and return the letters to EPA Region III before materials can be removed from the site. A representative for ORIX was on site to investigate the electrical system on the Torit baghouse. The owners of the equipment hope to salvage portions of the electrical system. They were informed and agreed that a work plan needed to be drafted prior to salvage operations.

ERRS continued washing down the interior of the converter shed, and the first wash was completed. Holes were cut in the side wall (north wall, facing Castor Avenue) of the converter shed to allow for wash water to drain and flow onto the Franklin property. An opening was discovered in the ductwork that runs on the roof of the converter shed. Material caked on the interior walls of the ductwork were cleaned out using a fire hose. The ERRS crew members washed down the concrete pad where the transfer building used to stand in the south side yard.

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The ERRS crew continued to vacuum in the briquette area of the smelter building. Nineteen tote bags were generated to date from vacuum operations. The crew also continued gross decontamination of small tools, sorting through debris and the bulking of piles in the smelter building. While working in the briquette area in the smelter building, the ERRS crew hit piping that led to a large tank. The pipe emitted a thick liquid substance, and it was later determined that the thick liquid was molasses that had been used in the briquetting operations in the smelting process. ERRS crew members had routine blood work completed, a pulse oxymeter was received on site for accurately reporting the crew's pulse for medical monitoring.

July 27 through 30, 1998

On Thursday July 27, 1998, the ERRS RM noticed that an oil-based substance was on the ground, stone, and equipment in the south yard. It appeared that the substance was emitted from the PGW process stack. SATA contacted PGW representatives and determined that they had an engine failure the previous night. During the engine failure, some engine lubricant was released into the system and should have been burned off when directed by a manifold into the burn stack. However, the lubricant did not burn off and was released from the stack onto materials and equipment staged in the south yard. The release did not cause a significant concern or affect on-site operations. On Thursday, July 17, 1998, Mr. Teplitz, who is in the process of purchasing a portion of the site (north yard), toured the site, escorted by OSC Fox, a USCG Atlantic Site Team Member, and the ERRS RM. Representatives from PECO were on site this week to move the electrical lines that parallel the south yard on Castor Avenue. A letter of liability was sent to the individual who bid for the reclamation of the zinc oxide materials. The respective party has 10 days to sign and return the letter to EPA Region III before the material could be removed from the site. On Wednesday July 29, 1998, a photographer from the Philadelphia Daily News was on site to photograph some of the site operations.

Sixty-seven PCB containing drums were loaded and transported off site on Monday July 27, 1998. Tri-state Motor Transit transported the drums to Chemical Waste Management, Inc. (CWM) in Model City, New York. Representatives from PECO were on site this week to move the electrical lines that parallel the south yard on Castor Avenue, and they will return to complete the work once the underground connection has been addressed. The ERRS crew began researching possible water sources that may be used to supply water for dust suppression to the north yard during disposal and reclamation activities. ERRS crew members recorded measurements in the north yard for the installation of polyvinyl chloride (PVC) pipes that will aid in distributing water in the north yard. ERRS continued vacuum operations in the briquette area of the smelter building on the south side of the site. A total of 25 tote bags were generated from vacuuming operations in the briquette area to date. A roll-off box full of ingot molds was mobilized off site on Monday July 27, 1998, and transported to the scrap recycling facility. The ERRS health and safety officer completed setting up spill pallets in various locations on site in preparation for any possible minor oil spills that may occur during fuel delivery operations. The ERRS health and safety officer put up a temporary high-visibility (hurricane) fence at the entrance into the east gate to further restrict access. A temporary fence was also installed behind the oxygen plant. ERRS crew worked in the converter building, scraped the floor of the converter shed, and placed the materials in large piles that were later placed in tote bags. ERRS crew cleaned behind the Torit baghouse. Totes were staged in the south yard. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. On Monday, July

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27, 1998, SATA collected SKC personal air samples from the east gate of the south yard. A SKC personal air sample was collected from vacuuming operations in the briquette area in the smelter building on the south side of the site and the sample was shipped to the laboratory for analysis. SATA and USCG continued to deploy air monitoring and sampling devices on site during removal activities. Four PDRs and two DRs were used to determine total airborne particulate matter during site operations. Task-specific personal air samplers are also deployed during each new task.

July 31 through August 3, 1998.

The additional funding request was approved on July 31, 1998, allocating additional funds of \$17,505,000. The revised project ceiling was \$19,486,000, of which \$18,486,000 is extramural costs.

The respective party that bid on the stockpiled high copper-bearing materials onsite responded to the letter of liability within the specified time requirement. The response was reviewed and approved by the OSC.

OSC Fox, USCG, SATA, and ERRS RM toured the south side buildings and inspected cleanup progress. ERRS continued the vacuum operations in the briquette area and behind the Torit baghouses on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. ERRS used the excavators and shears to clear, cut, and stage metal debris. They also maintained and replaced gutter buddies installed in storm drains along Castor Avenue and upgraded fence gates along the Balfour Street fencing on the north side, due to evidence of recent trespassing. They began preparations for the demolition of the converter building. One roll-off box of scrap metal was transported off site to a recycling facility. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. The temporary foam and fiber encapsulate, which was sprayed on the bulk and tote bags on the north side (applied in April 1998), showed signs of degradation. SATA and USCG continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples. Air samples were shipped to laboratory for pp metals analysis on July 31, 1998.

August 3 through 8, 1998

Representatives from the proposed company to recycle bulk feedstock piles (located primarily on the north side) were on site on August 6, 1998, to continue their inspection of the piles and continue the planning of transporting the materials off-site by rail. The EPA, ERRS, and the proposed company to recycle bulk feedstock piles continued to coordinate sub-contracting specifications. OSC Boyd updated Ramona Smith of the Philadelphia Daily News about the on site operations. USCG Atlantic Strike Team discussed with the OSC the need to recall the remaining DR unit, which was used in the implementation of the air monitoring and sampling plan.

ERRS continued vacuum operations in the briquette area and behind the Torit baghouses on the south side of the site. Tote bags generated during vacuuming operations were

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staged on the north side. ERRS began gross decontamination of baghouses 14 through 17, located on the south side of the site and cut access windows into the ductwork to inspect interior contents. The ERRS T&D Coordinator began arranging for the transportation and disposal of PPE. The ERRS structural engineer was on site to inspect structures and buildings on the south side and to supervise demolition operations that ERRS was conducting in the charging shed area of the smelter building on the south side. One roll-off container of decontaminated scrap metal was transported off site to a local recycling facility this week. USCG, SATA, and ERRS toured the south side and evaluated potential confined space work areas.

August 10 through 15, 1998

OSC Fox spoke with John Hadalski from the manager's office for the City of Philadelphia, who voiced concerns about the EPA's delays in receiving additional funding required to continue cleanup operations on site. OSC Fox informed him that the additional funding was granted, and recycling and disposal operations were in full swing.

Due to continued evidence of trespassers on site, ERRS began installing additional razor wire along sections of fence on the north side. It was discovered that trespassers had broken into the adjacent PWD facility and cut a hole in the fence to access the north side. Temporary repairs were made to the fence, and SATA informed Bill Mckeon, PWD plant manager, of the security problems. Preliminary analytical data from the tote bag samples indicate that recycling of the zinc oxide materials is within the recycler's state requirements. A sub-contract agreement for the removal of feedstock materials off site by Noranda, Inc. of Quebec, Canada (Noranda), was approved and finalized by Lorrie Murray. ERRS continued vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverber areas on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. ERRS continued gross decontamination of ductwork on the south side; due to bi-layered caked material in the ducts, ERRS broke the material manually prior to vacuuming. One roll-off container, filled with decontaminated I-beams and sheet metal from converter building demolition operations, was transported off site to a local recycler on August 11, 1998. The ERRS T&D coordinator continued arranging for the transportation and disposal of PPE and wood debris. The T&D coordinator also continued arrangements to transport zinc oxide tote bags and feedstock material off site for recycling. The ERRS structural engineer was on site to inspect structures and buildings on the south side and supervise demolition operations. The ERRS crew continued demolition operations in the smelter building and on the exterior of the converter building, on the south side. The EMT continued to monitor for heat stress during daily operations. Some workers required extended breaks due to high pulse rates or excessive weight loss. ERRS began clearing tote bags and debris from the railroad spur on the north side. SATA and USCG continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments, and collecting task-specific air samples. Personal air samples were collected on August 12, 1998, to be shipped for analysis the next day. SATA made arrangements to replace the DR recalled by the USCG Atlantic Strike Team with a rental unit.

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August 17 through 22, 1998

Mr. Tepletz was on site this week to inspect the condition of the shredder unit in the north yard. A representative from Conrail inspected the rail lines running through the north yard, which would be used to transport feedstock materials to Noranda in Ontario, Canada. Conrail reported that the tracks appeared to be in good condition.

ERRS began removing the north yard contaminated wood debris that would be transported to Chem-Met Services Inc. (Chem-Met) in Brownstone, Michigan. Nine trucks were loaded and transported to Chem-Met to date. ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverb areas on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. ERRS continued gross decontamination of ductwork on the south side, and due to bi-layered caked material in the ducts, workers were required to manually break up the material prior to vacuuming. A water line was constructed from the west end of the south yard to supply water for dust control to the east end of the south yard. Five roll-off containers filled with decontaminated I-beams and sheet metal from converter building demolition operations were transported off site to a local recycler. An ERRS structural engineer continued to support and supervise demolition operations, which included the dismantling of the converter building exterior and a systematic cutting of piping and structures in the charging area to gain access into the smelter building for decontamination operations. EMT continued to monitor for heat stress during daily operations; some workers required extended breaks due to high pulse rates or excessive weight loss. ERRS continue clearing tote bags and debris from the railroad spur and the loading dock on the north side to prepare the area for the removal of the feedstock materials to Noranda. SATA received personal air sampling analytical data collected during the north yard track clearing operations. Lead levels were below the PELs.

August 21 through 24, 1998

ERRS continued to remove the contaminated wood debris from the north yard and transport it to Chem-Met. Nine trucks were loaded and transported to Chem-Met this period for a total of 18 trucks to date. ERRS continued vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverb areas on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. Three roll-off containers of decontaminated I-beams and sheet metal from the converter building demolition operations were transported off site to a local recycler. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. EMT continued to monitor for heat stress during daily operations; some workers required extended breaks due to high pulse rates or weight loss. ERRS continued clearing tote bags and debris from the railroad spur and loading dock on the north side to prepare the area for removal of feedstock materials to Noranda. SATA and USCG continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples. SATA implemented continuous carbon monoxide monitoring in the smelter building due to the high volume of machines performing work in the smelter area. Maximum carbon monoxide levels reached 300 ppm. In order to reduce carbon monoxide levels in the smelter building, work was temporarily ceased to allow time for the area to vent. SATA received personal air sampling analytical data, and the lead levels were below the PEL.

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August 25 through 27, 1998

PECO completed the electrical work on the south side of the site.

ERRS continued to remove the contaminated wood debris from the north yard and transport it to Chem-Met. Nine trucks were loaded and transported to Chem-Met this period for a total of 27 trucks to date. ERRS continued to clear tote bags and debris from the railroad spur and loading dock in order to prepare for the removal of the feedstock materials into covered gondola railcars. ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverb areas on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. Three roll-off containers of decontaminated I-beams and sheet metal from converter building demolition operations were transported off site to a local recycler. One roll-off container, which contained scrap metals from the north yard, was transported off site to the same recycler. ERRS staged four electric fans in the smelter building and briquette area to attempt to circulate the air to reduce carbon monoxide concentrations in the smelter building. The staging of fans in the smelter area significantly reduced the carbon monoxide levels to values below the National Institute for Occupational Safety and Health (NIOSH) level of 35 ppm. SATA and USCG continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples.

August 28 through 31, 1998

ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverb areas of the smelter building on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. Two roll-off containers of decontaminated scrap metals from the north yard were transported off site to a local recycler on August 31, 1998. ERRS continued the demolition of the converter building and loaded the decontaminated scrap metal and I-beams in roll-off containers. ERRS continued to use electric fans in the smelter building to disperse carbon monoxide concentrations. SATA and USCG Air Strike Team continued to monitor carbon monoxide levels in the smelter building. No sustained levels were detected above the NIOSH PEL of 35 ppm. ERRS received analytical data for the zinc oxide tote bags. Full analytical packages were forwarded to the Pennsylvania Department of Environmental Protection (PADEP) and the perspective metal reclaimer. PPE disposal analysis showed levels of leachable lead, classifying PPE as hazardous; appropriate T&D of PPE was arranged. ERRS continued to use the Tennant sweepers and water as a means of dust suppression on site. EMT continued to monitor the workers for heat stress during daily operations. SATA and USGS continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air sampling.

September 1 through 3, 1998

As of September 1, 1998, due to continuous delays in finalizing arrangements for transportation of feedstock materials for reclamation, the OSC suspended north yard operations. North yard crew (one operator, one foreman, and three technicians) were demobilized until arrangements were finalized.

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ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and rocking reverb areas of the smelter building on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. Two roll-off containers of decontaminated scrap metal were transported off site to a local recycler on September 1, 1998; one roll-off container of scrap metal was transported off site on September 2, 1998. ERRS continued the demolition of the converter building and loading decontaminated scrap metal and I-beams in the roll-off containers. Electric fans were used in the smelter building to disperse carbon monoxide concentrations. SATA and the USCG Atlantic Strike Team continued to monitor carbon monoxide levels in the smelter building. No sustained levels were detected above the NIOSH PEL of 35 ppm. ERRS T&D coordinator continued to coordinate between ERRS lawyers and potential recycler's lawyers to finalize the arrangements for the transportation of feedstock material and zinc oxide tote bags off site for reclamation. No agreements were finalized to date. The USCG Atlantic Strike Team demobilized from the site.

September 8 through 11, 1998

Approximately 3 months had passed since initial negotiations with the recycling facilities began. The OSC is concerned with the finalization of the agreement.

ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and the rocking reverb areas of the smelter building on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. Two roll-off containers of decontaminated scrap metals were transported off site to a local recycler on September 8, 1998; one roll-off container of scrap metal was transported off site on September 10, 1998. ERRS completed the removal, bagging, and staging of filter cassettes from the Torit baghouses. ERRS electrician hooked up the power so that augers could be used to push interior contents of the baghouses into tote bags; the crew continued to work on the gross decontamination of these baghouses. ERRS continued to use electric fans in the smelter building to disperse Carbon Monoxide concentrations. SATA continued to monitor carbon monoxide levels in the smelter building. No sustained levels were detected above the NIOSH PEL of 35 ppm. ERRS began operations to clean out bags and materials from baghouses 14 through 19. ERRS continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples. SATA collected a personal air sample during Torit baghouse operations. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. EMT continued to monitor the workers for heat stress during daily operations. ERRS mobilized a 345 excavator with grapples to aid in demolition operations. ERRS hosed down an additional section of the converter building to reduce the potential for off site migration of contaminants and continued demolition operations.

September 12 through 17, 1998

EPA conducted an in-house audit of the site files and record-keeping procedures. Both contracting officers in charge of the ERRS and SATA contracts were on site to meet with the OSC and site personnel. Due to continued and numerous delays in finalizing the subcontracts for the recycling of the zinc oxide the OSC had tasked the ERRS T&D coordinator to begin exploring other recycling facilities and disposal options. Owners of the shredder were on site to inspect the inside of the shredder unit.

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ERRS completed the gross decontamination of the Torit baghouse by removing and bagging 384 filters and hosing the filter housing down with water. A more detailed decontamination of the Torit baghouse would continue. ERRS continued the operations to clean out bags and material from baghouses 14 through 19. ERRS continued the vacuum and gross decontamination operations in the briquette, charging shed, and the rocking reverb areas of the smelter building on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. ERRS began to remove piping and scrap from the alleyway between the charging shed and the rocking reverb area. This area in the smelter building previously collapsed; nobody was injured. One roll-off container of decontaminated scrap metal was transported off site to a local recycler. Two trucks were loaded with used PPE and sent for disposal to City Environmental, Inc. ERRS continued using electric fans in the smelter building to disperse carbon monoxide concentrations. SATA continued to monitor carbon monoxide levels in the smelter. No sustained levels were detected above the NIOSH PEL of 35 ppm. ERRS T&D coordinator continued to coordinate between ERRS lawyers and potential recycler's lawyers to finalize the arrangements for transportation of feedstock material off site for reclamation. No subcontracts for reclamation were finalized to date. ERRS continued to use the Tennant sweeper and water as a means of dust suppression on site. The EMT continued to monitor the workers for heat stress during daily operations. SATA continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples. SATA collected personal air samples during baghouse 14 through 19 operations. SATA received personal air sampling results from the baghouse decontamination operations and the lead levels were above the PEL of 40 µg/mg, but were within the parameters set for level "C" operations in that work zone. SATA received a weather station and a cannonball CGI on site.

September 18 through 23, 1998

ERRS drained a 500-gallon oil tank in the north side garage, the tank was labeled "wasteoil". Ten 55-gallon drums were generated from the drained oil. SATA monitored air quality with a microtip photoionization detector (PID) during the operation. Startup of the vacuum operations in the upper levels of the charging shed area required the installation of extra lighting and safety ropes to create a safe work environment. Loose piping and general debris were also removed from the platforms and catwalks. ERRS completed the gross decontamination of the Torit baghouse by removing and bagging 384 filters and rinsing the filter housing with water. A more detailed decontamination of the Torit baghouse would continue. Due to poor structural integrity ERRS took down baghouse 7 through 11. This was accomplished using a 345 grapppler and 350 shears. ERRS cut apart baghouse 7 through 11, decontaminated them, and loaded the steel into roll-off containers. The bags were loaded into totes and staged in the north yard. ERRS completed gross decontamination of baghouses 14 through 19. The bags were transported to the north side of the site. ERRS continued vacuum and gross decontamination operations in the briquette, charging shed, and the rocking reverb areas of the smelter building. Three roll-off containers of decontaminated scrap metal were transported off site to a local recycler this week. Two oxygen cylinders were removed from the site. ERRS continued to use electric fans in the smelter building to disperse carbon monoxide concentrations. SATA continued to monitor carbon monoxide levels in the smelter building. No sustained levels were detected above the NIOSH PEL of 35 ppm.

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September 24 through 29, 1998

North side operations restarted as the agreement for the recycling of the feedstock material was finalized with Noranda on September 29, 1998. The material would be shipped to the Noranda facility in covered gondola type railcars. Six covered railcars arrived on site along with two representatives from Noranda to coordinate loading operations for their facility. ERRS attended a meeting on the safe operation of the rail car covers. ERRS loaded one rail car with feedstock material from pile P002. Due to the continued delays in finalizing the subcontract for the recycling of the zinc oxide, the OSC directed the ERRS T&D coordinator to reissue requests for bid proposals. Seven facilities were given the requests for bid proposals due by October 14, 1998. Franklin President, Mr. Saltzburg, visited the site and signed the release for the material to be sent to Noranda for reclamation.

ERRS completed the decontamination and dismantling of baghouses 7 through 11. All of the decontaminated scrap was loaded into roll-off containers. The filters were all bagged and staged in the north yard and the dust from the baghouses was staged inside the smelter building in the briquette area. ERRS continued the vacuum and gross decontamination operations in the briquette area, charging shed, and the rocking reverb areas of the smelter building. Tote bags generated during vacuuming operations were staged on the north side of the site. Four roll-off containers of decontaminated scrap metals were transported off site to a local recycler. ERRS continued to use electric fans in the smelter building to disperse carbon monoxide concentrations. SATA continued to monitor carbon monoxide levels in the smelter building; and no sustained levels were detected above the NIOSH PEL of 35 ppm. The EMT continued to monitor the workers for heat stress during daily operations, and SATA continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples.

September 30 through October 2, 1998

The north side operations continued as the agreement for recycling feedstock materials was finalized with Noranda. The material would be shipped to its facility in covered railcars. The north side received an additional three empty railcars and completed loading all nine railcars on site, with feedstock material from pile P002. High winds briefly delayed north side loading operations on October 1, 1998. ERRS fabricated a steel tool to assist the safe removal and replacement of the 1,800-pound fiberglass railcar lids. One perspective bidder for the reclamation of site materials was on site this week to inspect the zinc oxide material.

ERRS made confined space entries into baghouses 14 through 19 located on the south site in order to facilitate access for vacuuming operations. SATA conducted air monitoring prior to entries. ERRS continued the operations for demolition of the converter building, taking down the central roof portion and a large portion of ductwork. Scrap metal was decontaminated and loaded into roll-off containers. Franklin Smelting requested that EPA try to leave the overhead bridge crane in the converter building standing and just demolish the surrounding structure. It had become apparent that the overhead bridge crane structure is not safe if left standing because the surrounding support structure is unstable. It would require demolition to continue safe gross decontamination and demolition operations of the converter building. The ERRS structural engineer had recommended demolition of this structure. His recommendations were submitted

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in writing to the OSC. ERRS began cleaning out sump areas and staging the wet materials in the smelter building for drying. ERRS continued the vacuum and gross decontamination operations in the briquette, the charging shed, and the rocking reverb areas of the smelter building. Tote bags generated during vacuuming operations were staged on the north side. Two roll-off containers of decontaminated scrap metal were transported off site to a local recycler. ERRS continued using electric fans in the smelter building to disperse Carbon Monoxide concentrations and SATA continued to monitor carbon monoxide levels during ERRS activities in the smelter. No sustained Levels were detected above the NIOSH PEL of 35 ppm. ERRS also continued to use the Tennant sweeper and water as means of dust suppression on site. The EMT continued to monitor the workers for heat stress during daily operations; and SATA continued to implement the air monitoring and sampling plan, running continuous air monitoring instruments and collecting task-specific air samples.

October 5 through 8, 1998

North side operations continued as nine railcars (ONT:045, 5032, 5052, 5054, 5020, 5001, 5030, 5031, and 5046) were loaded with material from pile P002 (Primarily light, shredded circuit boards) and shipped to Noranda. Nine empty railcars (ONT: 5034, 5069, 5013, 5029, 5095, 5074, 5068, 5071, and 5056) were left. ERRS began loading the empty railcars in the north Yard with material from P008 (mixed coarse and fines). A portable scale was set up to help track the load weights (the maximum load was about 190,000 pounds per car). Forty-eight drums containing mixed oils were transported off site to Chemtron Corporation in Avon, Ohio, this week for fuel blending (Total Quantity 2,640 gallons). ERRS made confined space entries into baghouses 14 through 19 in order to facilitate access for gross decontamination operations. ERRS cut and removed the metal pipes in the charging shed. The converter building demolition continued, and ERRS crew removed the ductwork from the roof. ERRS continued loading decontaminated scrap metal into roll-off containers. The ERRS continued vacuum and gross decontamination operations in the briquette, charging shed, and the rocking reverb areas of the smelter building. Tote bags generated during vacuuming operations were staged on the north side. It was discussed and recommended that due to lower temperatures that the services of the EMT be discontinued, at this time.

October 9 through 13, 1998

ERRS continued the loading of railcars for shipment to Noranda. Ten railcars (ONT: 5034, 5069, 5013, 5029, 5095, 5074, 508, 5071, 5056, and 5092) were loaded with fines from pile P008 and were transported off site on October 13, 1998. Conrail railcar 5092 was added to the group that pulled out on October 13, 1998, the day after the first line arrived. Ten empty railcars (ONT: 5097, 5036, 5099, 5033, 5003, 5000, 5019, 5070, 5098, and 5015) arrived on site.

During the loading of the railcars, ERRS segregated debris from pile P008 and fire hoses were used for dust control. A portable scale continues to help track the load weights. ERRS continued the gross decontamination of baghouses 14 through 19 by vacuuming and shoveling out the dust and ash from inside each of the hoppers. Twenty-six cubic-yard bags of material were generated from the vacuuming and shoveling operations. The frozen screw auger was cut away from the baghouses to access the material inside of the auger and at the bottom of the baghouses. ERRS prepared to pressure wash (final decontamination) inside of the baghouses.

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ERRS cut and removed metals pipes and demolished a wall that had become unstable from what remained of the transfer building. ERRS continued vacuuming and gross decontamination in the Briquette, charging shed, and the rocking reverb areas of the smelter building on the south side of the site. Tote bags generated during vacuuming operations were staged on the north side. ERRS continued with the systematic demolition of the converter building. The entire roof of the eastern portion of the building was demolished, decontaminated, and loaded into scrap roll-off containers. Three fire hoses and two man-lifts were used for dust suppression. The air monitoring equipment recorded readings below OSHA's PELs in any of the work zones.

October 14 through 20, 1998

Due to the high prices quoted in the bids for the recycling of the zinc oxide the ERRS T&D coordinator issued OSC Fox a memorandum. The memorandum stated the results from the second round of bidding and recommended exploring disposal costs. The T&D coordinator suggested that disposal costs should be significantly lower than the costs proposed by the perspective recyclers and reclaimers. OSC Fox directed the ERRS T&D coordinator to request that the bid proposals from the disposal facilities be returned on October 21, 1998. The OSC and EPA ORC met with PIDC and its attorneys on October 20, 1998 to discuss the arrangements for the prospected purchaser of the north yard of Franklin Smelting. The OSC plans to have the cleanup operations in the north yard completed by spring 1999. ERRS continued to load railcars for shipment to Noranda. Six railcars (ONT: 5080, 5053, 5041, 5061, 5085, and 5037) were loaded with fines from pile P008 and were transported off site on October 19, 1998. During the loading of the railcars, an ERRS crew segregated debris from pile P008, and fire hoses were used for dust control. A portable scale continued to help track the load weights and ensure that the railcars did not exceed weight restrictions. ERRS completed the gross decontamination of baghouses 14 through 19 and began decontaminating baghouses 20 through 23. ERRS loaded seven trucks with contaminated debris, shredded wood, and filters. Due to the cadmium and lead contents, ERRS disposed of the material as hazardous waste. ERRS continued to vacuum the walls and ceiling of the smelter building. Tote bags generated during vacuuming operations were staged on the north side. ERRS operators continued with the systematic demolition of the converter building. The entire roof of the building was demolished, decontaminated, and loaded into scrap roll-off containers.

October 21 through 26, 1998

The disposal bids for the zinc oxide were received by the ERRS T&D coordinator. The multiple bids received were significantly lower than the bids offered by the recycling facilities. ERRS evaluated the bids and would award a subcontract upon approval by the EPA Contracting Officer. PAM delivered air-sampling results from March to July 1998. SATA charted the data with prior data from air management. The charted data revealed no evidence of increased airborne lead levels due to removal activities at Franklin Smelting.

ERRS continued the loading of railcars for shipment to Noranda. Railcars (ONT: 5004, 5079, and 5075) were loaded with fines from pile P008 and scheduled to be taken on October 27, 1998. During the loading of the railcars, an ERRS crew segregated debris from pile P008, and fire hoses were used for dust control. Digital photographs of the material being loaded along with debris pulled from the piles were sent via e-mail to Noranda. ERRS completed the gross

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decontamination of baghouses 20 through 23 and began decontamination of baghouses 1 through 6. The ERRS crew manually shoveled out the lower portion of baghouses 1 through 6 due to limited access. Over 60 cubic-yard bags were generated from this operation. ERRS loaded nine trucks on October 21, 1998 with contaminated debris, shredded wood, and filters. Due to the leachable cadmium and lead content, ERRS disposed of the material as hazardous waste. ERRS continued to vacuum the walls and ceiling of the smelter building. Tote bags generated during vacuuming operations were staged on the north side. ERRS operators completed the systematic demolition of the converter building. The entire structure of the converter building was removed except for the three rotary converters on their stands, which were decontaminated and remained standing. ERRS continued to use electric fans in the smelter building to disperse carbon monoxide concentrations.

October 27 through November 3, 1998

North side operations continued as feedstock materials were loaded into railcars, which were shipped to Noranda for copper reclamation. On October 27, 1998, five railcars (ONT: 5020, 5001, 5030, 5031, and 5026) were transported off site containing materials from P008, P002, and P038. On October 30, 1998, seven railcars were dropped off and on November 3, 1998, seven railcars (ONT: 5014, 5012, 5045, 5032, 5052, 5054, and 5046) were transported off site containing materials from P002 and P030; nine empty cars were also dropped off on this date. Noranda provided reports showing that official railcar weights (full) have ranged from 30 to 86 tons per car, depending on the material loaded. To date, 52 railcars were loaded and transported offsite to Noranda. On November 2, 1998, MG Industries were on site to remove their oxygen tank from the site. Mill Service, Inc. (of Yukon, PA), the facility that ERRS recommended to award the bid, was on site to collect a sample of the material for a treatability study. The results of this study need to be evaluated and approved by PADEP. ERRS provided a copy of the consent agreement to EPA contracting offices for approval. ERRS contacted the security company about information it obtained that a security guard was stealing copper from the site and selling it to a local scrap dealer. The security company confronted the guard who then confessed and was fired. ERRS continued efforts to seek restorations from security subcontractor. EPA contracting officer and inspector general were informed of the matter, and no EPA action was taken at this time.

In addition to the railcars, a summary of materials transported off site to date includes 43 truckloads of wood and debris contaminated with cadmium and lead, two truckloads of used PPE, 445 kilograms of PCB transformers, 352 drums of various materials, and approximately 100 roll-off containers of decontaminated scrap metals that were sent to the recycling facility. On the south side, ERRS continued gross decontamination and vacuuming operations in the smelter building and in and under baghouses 1 through 6. ERRS collected samples from the rubble found in converter building (it was used to build a pad to provide heavy equipment access to high areas) and analyzed them for disposal parameters. ERRS completed demolition of the converter building and decontaminated the scrap metal that was loaded into the roll-off boxes. Five roll-off boxes on decontaminated scrap metal were transported off site to a local scrap recycler. ERRS used five truckloads of no.2 stone to fill in holes and spread on Geo-text fabric to facilitate a truck turn around on the south side. SATA continued to track and update logs documenting all materials transported off site for disposal, recycling, and reclamation.

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November 4 through 9, 1998

The north side operations continued as feedstock materials were loaded into railcars, which were shipped to Noranda for copper reclamation. On November 5, 1998, nine railcars (ONT: 5013, 5029, 5036, 5097, 5056, 5092, 5071, 5022, and 5034) were transported off site containing material from P002, and 10 empty cars were brought to the facility. On November 6, 1998, four railcars (ONT: 5098, 5051, 5015, and 5058) were transported offsite containing materials from pile P002; empty cars were dropped off on this date. On November 9, 1998, 10 railcars (ONT: 5099, 5033, 5003, 5000, 5019, 5070, 5010, 5042, 5021, and 5047) were transported off site containing materials from pile P002; seven empty cars were brought to the facility. To date, 75 railcars were loaded and transported off site to Noranda.

Removal of the Zinc Oxide tote bags began on the north side. On November 9, 1998, nine dump trailers were loaded with approximately 22 tons each of tote bag material and trucked off site to Mill Services, Inc. for treatment (solidification) and disposal (landfill). On the south side, ERRS continued gross decontamination and vacuuming operations in the smelter building. ERRS also partially decontaminated baghouses 1 through 6, which generated tote bags of zinc oxide material that was staged on the north side. Soil excavation from around the fiberglass reinforced (FRP) tanks was also staged in cubic-yard tote bags, and moved to the north side. A piece of duct from baghouses 14 through 19 was cut and cleaned. Data were received from rubble in the converter building (used to build a pad to provide heavy equipment access to high areas) and from soil excavated around the FRP tanks, which showed high levels of leachable lead in each. ERRS began cleaning the west end of the south side hot zone in order to reduce the size of the exclusion zone and facilitate a larger support zone. ERRS toured the south side of the site and marked and cut pieces of sharp metals that presented potential hazards to site personnel. ERRS repaired the damaged fabric fence covering along the northern border of north side adjacent to PWD. SATA and the ERRS health and safety officer continued periodic radiation monitoring in the smelter building to date; however no levels above background were detected. SATA continued to implement the air monitoring and sampling plan, deploying air monitoring instruments, downloading results and reporting results on a daily basis and a personal air sample was collected on November 4, 1998 during operations in baghouses 1 through 6 which contained extremely high lead levels. Operations were suspended in the baghouses until the crew could upgrade PPE to include powered air-purifying respirators (PAPRs). SATA continued to track and update logs documenting all materials transported off site for disposal, recycling, and reclamation.

November 10 through 14, 1998

The north side operations continued as feedstock materials were loaded into railcars and shipped to Noranda for copper reclamation. On November 12, 1998, seven railcars (ONT: 5040, 5053, 5041, 5085, 5086, 5037, and 5080) were transported off site containing material from pile p002; two empty cars were delivered that date and loaded with pile P002 material.

Removal of the zinc oxide tote bags continued on the north side. From November 10 to 14, 1998, 49 dump trailers were loaded with approximately 20 tons each of tote bag material and trucked offsite to Mill Service, Inc. Mill Service, Inc. postponed the truck delivery until Monday November 16, 1998, since leachable lead characteristics were not successfully lowered

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to meet LDR levels. During the removal of the dump trailers with the zinc oxide bags, ERRS set up a truck decontamination station and preparation area, so all trucks were covered and in DOT compliance when leaving the site. Flagmen were located at both the truck entrance and exit to the north yard. Due to the high cadmium and lead content in a personal air sample collected on November 4, 1998, from operations in the baghouse 1 through 6, the ERRS crew upgraded PPE to include PAPRs. Vacuum operations and filter removal continued as planned. SATA and ERRS health and safety officer inspected a 200-gallon tank that was uncovered in the tote bag pile; the tank contained casting sand. SATA continued to e-mail ERRS digital photographs of the loading operations for Noranda representatives. Personal air sample results were received and were well below OSHA PEL. The sample was taken in the north yard support zone during the loading of the zinc oxide tote bags.

November 16 through 21, 1998

The north side operations continued as feedstock materials were loaded into railcars and shipped to Noranda for copper reclamation. On November 16, 1998, railcars (ONT: 5074 and 5068) were transported off site containing material from pile P002. On November 19, 1998 railcar (ONT: 5095) was transported off site containing material from pile P011.

ERRS begin cutting access holes in the ductwork inside the smelter building to be able to remove the material inside. A third personal air sample was taken during baghouse 1 through 6 decontamination operations, and the results were within level "C" limits. SATA continued to e-mail ERRS digital photographs of the loading operations for Noranda representatives. The ERRS structural engineer was on site inspecting the various areas inside the smelter building and will develop a shoring and demolition work plan to be able to perform safe decontamination. ERRS began winterizing outside water lines and support zone areas. SATA and the ERRS health and safety officer continued periodic radiation, carbon monoxide, and oxygen monitoring in the smelter building. No readings above the acceptable levels were recorded.

November 23 through December 2, 1998

The north side operations continued as feedstock materials were loaded into railcars and shipped to Noranda for copper reclamation. On November 23, 1998, four railcars (ONT: 5001, 5026, 5030, and 5031) were transported off site containing material from piles P013, P020, and P014. On November 25, 1998, 10 railcars (ONT: 5045, 5032, 5015, 5098, 5092, 5054, 5058, 5052, 5051, and 5012) were transported off site containing material from piles P017 and P018. On December 1, 1998, five railcars (ONT: 5075, 5004, 5079, 5046, and 5069) were transported off site containing material from piles P018 and P029.

ERRS began removal and transportation of zinc oxide bags to CWM. Ten trucks were transported off site on November 24, 1998, and ten trucks were transported December 3, 1998, for a total of 20 trucks transported to CWM to date. Due to some difficulty in meeting stabilization requirements, CWM requested that there be a hold on trucks until further testing is completed, and the stabilization requirements were met. ERRS completed removing the filters from baghouses 1 through 6, and continued to cut holes in the flooring to gain access to contaminated dust in the hopper. Vacuuming operations in the baghouses continued with crews wearing PAPRs. ERRS completed cutting the holes in the ductwork inside of the Smelter to

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remove contaminated materials. Decontamination inside the smelter building continued. ERRS began to consolidate feedstock piles in the smelter building and prepared an area at the freezer strip entrance for a truck tire wash for smelter load out operations. Feedstock material from the smelter building was transported to the north yard to be sent by railcar to Noranda. The ERRS structural engineer submitted a report to the OSC for the first phase in the dismantling and demolition of the various areas inside of the smelter building. The report was reviewed by the OSC and SATA. ERRS continued to use the Tennant sweeper and water as means of dust suppression on site. SATA and the ERRS health and safety officer continued periodic radiation, carbon monoxide, and oxygen monitoring in the smelter. No readings above the acceptable levels were recorded.

December 3 Through 8, 1998

The north side operations continued as feedstock materials were loaded into railcars and shipped to Noranda for copper reclamation. On December 3, 1998, 10 railcars (ONT: 5034, 5070, 5020, 5014, 5022, 5056, 5097, 5036, 5029, and 5013) were transported off site containing material from piles P002, P029, and P030. On December 7, 1998, four railcars (ONT: 5071, 5061, 5021, and 5047) were transported off site containing material from piles P025 and P027. On December 8, 1998, 10 railcars (ONT: 5085, 5040, 5037, 5033, 5000, 5019, 5042, 5041, 5086, and 5080) were loaded with material from piles P030, P043, and P025. The OSC conducted a site walk through with Franklin Smelting president, Mr. Saltzburg on December 2, 1998. On December 7, 1998, the OSC spoke with Mr. Saltzburg regarding the bins of materials stored in the office and warehouse. Mr. Saltzburg stated that the material in the bins could be shipped to Noranda but that he was interested in the materials on the second floor. The OSC requested that a Weston SATA engineer come on site to investigate the structures on site and to provide comments.

ERRS continued removal and transportation of zinc oxide bags to CWM at a reduced rate until stabilization testing was completed. Two trucks were loaded on December 3, 1998, and three trucks were loaded on December 8, 1998, for a total of 25 trucks transported to CWM. ERRS decontaminated one of the trailers from Balfour Street that had been staged in the north yard. The trailer needed to be cut up to be able to remove the zinc oxide. The zinc oxide was removed, and the body of the trailer was decontaminated and loaded into a roll-off container for shipment to the recycler. ERRS continued to use the Tennant sweeper and water as means of dust suppression on site. SATA and the ERRS health and safety officer continued periodic radiation, carbon monoxide, and oxygen monitoring in the smelter building. No readings above the acceptable levels were recorded.

December 9 Through 12, 1998

The north side operations continued as feedstock materials were loaded into railcars and shipped to Noranda for copper reclamation. On December 9, 1998, 10 railcars (ONT: 5085, 5040, 5037, 5033, 5000, 5019, 5042, 5041, 5086, and 5080) were transported off site containing material from piles P043, P030, and P025. On December 11, 1998, four railcars (ONT: 5095, 5010, 5099, and 5053) were transported off site containing material from piles P025 and P043. Four railcars were temporarily stopped in Toronto for being overweight. Noranda brought the cars to the proper weight by removing portions of the loads to trucks. CWM completed and passed stabilization testing for the zinc oxide material on December 11, 1998. Shipment of the material

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to CWM was to resume once the subcontract is amended. During this time, one truckload was shipped on December 9, 1998.

SATA conducted field HazCat operations on two samples from one of the FRP tanks in the south yard and an elevated tank inside the charging area of the smelter building. Both samples were found to be safe for removal. ERRS began torch-cutting steel plating sections in the smelter building in order to access the material behind them. The same was done in the north yard by the shredder where material was between a steel wall.

December 14 through 17, 1998

Upon the Franklin Smelting president's request, the OSC allowed eight lawyers on site to inspect baghouses 20 through 23 and their fan units next to the south yard CRZ. All site work was temporarily suspended during the inspection.

ERRS removed two truckloads of bagged soil from the vicinity of the FRP tanks, which were hauled to a hazardous waste landfill on December 17, 1998. FRP tank 2 had contained a volatile liquid. ERRS had drummed and disposed of this liquid several months prior. Through HazCat tests, the materials were found safe for removal. ERRS shoveled out the material into open-top drums. The tank was then rinsed and staged. Disposal analysis was conducted on the drummed material. Vacuuming operations in baghouses 1 through 6 continued with the crews wearing PAPRs. ERRS began to cut access holes in the front duct of baghouses 1 through 6 and the material inside the duct was then removed. All of the associated augers at the bottom of each baghouse were cut down and decontaminated. ERRS continued to consolidate loads and transport the material staged inside the smelter building to the north yard. The articulate dump truck hauled loads from the smelter to the bins in the north yard. Six railcars were temporarily stopped in Toronto for being overweight. Noranda brought the cars to their proper weight by removing portions of the loads. The OSC directed ERRS to reexamine its loading operations with the help of SATA. Due to the wide variation in material density and consistency within the piles it was resolved that each bucket load from the loader would be weighed. ERRS was investigating the option of Conrail weighing the railcars before they enter Canada. One roll-off container of decontaminated scrap steel was hauled to a recycler. Personal air sample data were received, and both were well within OSHA standards for the level "C" and D work zones. ERRS continued torch cutting the steel plating section in the smelter building in order to access the material behind it. ERRS cleaned out the garage and shop area and the scrap sample storage area of the warehouse on the north side of the site. The scrap sample crates were bulked into an outdoor bin with similar feedstock to await shipment to Noranda. SATA and the ERRS health and safety officer continued periodic radiation, carbon monoxide, and oxygen monitoring in the smelter building. No readings above the acceptable levels were recorded.

December 18 through 23, 1998

The OSC toured the offices and warehouse in the north yard with Franklin Smelting's president, Mr. Saltzburg. He informed the OSC that he wanted to keep what could be removed. The OSC informed Mr. Saltzburg about PADEP's visit to the site concerning the underground storage tank. The OSC also gave Mr. Saltzburg the paperwork that was given to him by PADEP. The SATA Weston engineer was on site on December 18, 1998, for an inspection of the charging

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area inside of the smelter building. SATA accompanied the engineer during the inspection. Following his inspection and review of the ERRS preliminary work plan, he gave the OSC a verbal assessment of the structural integrity and safety of the assorted charging structures. The engineer concluded that even though the primary structures were safe and could support their weight, the secondary structures were so poor that they would have to be removed, thus weakening the primary structure. Primary structures consisted of I-beams, while secondary structures consisted of the equipment involved in the operation the catwalks and platforms. The engineer believed that, for safety reasons, the entire structure should be taken down. In addition to the safety factor, he stated a total demolition would be cheaper and would require fewer labor hours than building shoring and scaffolding to achieve proper decontamination.

Fifteen truckloads of the construction debris were removed from the transfer building located on the south side of the site, the debris consisted mostly of red brick. Due to its high leachable lead content, the material was shipped to a hazardous waste landfill for disposal. Five trucks were loaded on December 18, 1998, and ten were loaded on December 22, 1998. Vacuuming operations in baghouses 1 through 6 continued with crews wearing PAPRs. All of the six baghouse hoppers were emptied to date. ERRS continued to cut access holes in the front duct of baghouses 1 through 6. The material inside the duct was then removed. One roll-off container of decontaminated scrap steel was hauled to a recycler on December 22, 1998. ERRS shut down and secured operations for the holiday break. This included covering exposed piles with secured poly sheeting. Vacuum and water hoses were cleaned and stored, and all small tools and equipment were locked up. Some of the large equipment was staged in the yard to provide access for maintenance and repair. ERRS cleaned out the garage and shop area and the scrap sample storage area of the warehouse on the north side of the site. The scrap sample crates were bulked into an outdoor bin with similar feedstock to await shipment to Noranda. ERRS continue to clear the north yard of debris and equipment, restaging the equipment in the decontaminated areas. SATA inspected the perimeter of the site and work areas to make sure these areas were secure. Site operations for the Franklin Smelting Site were shut down for the holiday break by close of business on Wednesday, December 23, 1998. All crew demobilized and an up-to-date emergency telephone list was provided to the on-site security.

January 4 through 8, 1999

OSC and SATA structural engineer reviewed and concurred with the ERRS charging shed demolition plan. The SATA structural engineer recommended that the ERRS structural engineer be on site during demolition operations. As directed by the OSC, SATA placed paperwork into desk drawers and filing cabinets in Franklin Smelting's offices to prepare the office for decontamination operations. All paperwork in desk drawers and file cabinets remained. SATA properly disposed of other paperwork. The president of Franklin Smelting, Mr. Saltzburg, the OSC, and SATA agreed upon this during a previous walk-through. During the walk-through, Mr. Saltzburg pointed out to the OSC the paperwork he wished to keep and the paperwork he would not keep.

ERRS crew mobilized to the site following the holiday shut down. On January 4, 1999, CWM contacted ERRS and informed it that the New York Department of Environmental Quality (NYDEQ) would not permit the shipment of zinc oxide material until two more truckloads of material passed the stabilization testing. NYDEQ originally gave CWM approval for shipment

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on December 11, 1998. After the subcontract was amended on December 22, 1998, transport and disposal of zinc oxide began at an average rate of 30 trucks daily. However, over the holiday shut-down NYDEQ observed piles of treated zinc oxide that had not been placed in the landfill. The piles existed because the treated zinc oxide needed to cure for a couple of days before it would pass the stabilization test. Two trucks were loaded and shipped, one on January 5, 1999 and one on January 7, 1999, with zinc oxide material from the north yard. If both trucks passed the leachability testing, shipment of zinc oxide would resume; however the number of trucks per day would be reduced due to the cure process. ERRS began considering additional disposal facilities to offset the reduction in the average number of trucks per day. Five trucks loaded with the red brick and other decontaminated demolition material from the converter building were shipped off site on January 8, 1999. Vacuum operations continue in the smelter building. The area under the filter presses was vacuumed and setup to be used as a storage area for collected materials. Vacuum operations continue on baghouses 1 through 6. ERRS vacuumed dust material that was picked up by the sweeper and temporarily stockpiled it in the warehouse, into tote bags. ERRS moved the drums labeled as arsenical flue dust from a trailer on the north yard into the warehouse to be prepared for shipment to Noranda for recycling. ERRS moved tote bags on January 6, 1999, in the north yard, away from the PWD fence to allow for easier access to remove materials for disposal. The site continued to be winterized against extreme temperatures, snow, and ice. south yard CRZ was insulated for the cold weather along with the north side CRZ, which moved into the office area in the garage. Four, 600,000 British thermal units (Btu) heaters and three, 125,000 Btu heaters were brought to the site to provide heat in the smelter building and various areas throughout the site for warmer working conditions. SATA continues with perimeter air monitoring throughout the site. SATA began investigating the possibility of purchasing air monitoring equipment as opposed to renting as a long term cost savings for the project.

January 9 through 13, 1999

SATA spoke to Mr. Ed McLaughlin, of PAM, and was told that several of the air monitoring stations (PGW, NET & NTC) will be moved to other parts of the city. The movement of these units will not hamper site air monitoring operations. One year of data compiled from these stations, has indicated very low to non-detectable levels of lead. Stations in close proximity to the site will remain in place and operational.

Seven railcars arrived on site on January 12, 1999. Six of the railcars were removed containing material from pile 043 and computer shred material. Due to icing on top of the on site rail spur, one of the railcars derailed from the tracks and was not loaded. Conrail would be needed to put this car back on the tracks before it can be loaded. The zinc oxide material did not pass the stabilization testing at the disposal facility. The SATA structural engineer sent a written report, photographs of his findings, and recommendations for demolition of internal structures within the smelter building. Two trucks were loaded with red brick and other contaminated demolition material from the converter building in the south yard. One was shipped offsite on January 11, 1999, and one was shipped on January 12, 1999. Two trucks were loaded with wood debris and shipped on January 12, 1999. The street sweeper was used to clean parts of the smelter building floor. Vacuum operations continue in the smelter building. The area under the filter presses was vacuumed and setup to be used as a storage area. Vacuum operations continue on baghouses 1 through 6. ERRS shoveled the dust material that was picked up by the sweeper and stockpiled in

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the warehouse into tote bags. The vacuum was repeatedly clogged by this material, so shoveling was necessary. ERRS health and safety officer decided to use PAPRs for this operation due to the fine nature of the material. SATA monitored the operation with a Mini-ram. ERRS cleaned out the first floor of the Franklin Smelting offices. The Caterpillar mechanic was on site to work on the tracks of the Caterpillar 320 excavator and replace a gasket on the Caterpillar 950 loader. Preparatory work was done to the charging area of the smelter building for demolition operations. ERRS transferred piles from the smelter building and staged them in the bins in the north yard. SATA spoke with Peter Stockley (EPA) to order aerial photographs of the site from the Environmental Photographic Interpretation Center (EPIC). SATA continued perimeter air monitoring throughout the site.

January 14 through 16, 1999

Six railcars left the site on January 14, 1999 containing material from piles P043 and P024 material. The rail car that derailed from the tracks could not be loaded until it was put back on the rail spur.

ERRS began demolition of the charging shed within the smelter building. Steel beams, hoppers, and a water tank were removed. The water tank was staged outside the smelter building, and the steel was decontaminated and sent to a metal recycler. Dust control measures were in place during this operation. ERRS sent samples of the zinc oxide material for disposal stabilization testing to the following disposal facilities: Michigan Disposal, in Beliville, Michigan; City Environmental, in Detroit, Michigan; and Laidlaw / Safety Clean, in Sarnia, Ontario, Canada. ERRS decontaminated and loaded the steel from demolition activities into a roll-off container in the north yard, to be sent to a metal recycler. The street sweeper was used on the smelter building floor, the north yard, and other parts of the site. Vacuum operations for dust continued in the smelter building. Piles of dust generated during demolition activities were vacuumed. The ERRS welder continued to cut various steel members in the smelter building charging shed area as part of demolition operations. ERRS used the Bobcat and hand shoveled to recover the feedstock material from the rocking reverb area; ERRS staged the material outside the smelter building until it could be transported and staged on the north side in preparation for off site removal to Noranda. The shears were put back on the Caterpillar 320 to be used to remove the lids of the railcars while the Caterpillar 350 shear conducted demolition activities in the smelter building. ERRS continued to clean the Franklin Smelting offices. ERRS transferred the feedstock piles from the smelter building and transported and staged it in the bins in the north yard. SATA video-documented the demolition operations. SATA continued with perimeter air monitoring throughout the site.

January 18 through 23, 1999

Four railcars were demobilized from the site on January 21, 1999, filled with material from pile P043. The railcar that derailed from the tracks was put back on the tracks and was one of the four that was demobilized.

The ERRS structural engineer continued reviewing demolition activities and obtaining additional information to develop work plans for the different phases of the demolition. During the dismantling of the charging area structures within the smelter buildings, the engineer directed the

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demolition with the aid of a laser pointer. ERRS continued the demolition of the charging shed area within the smelter building. Dust control measures were in place during this operation. ERRS completed vacuuming the duct and hopper located in baghouses 1 through 6. ERRS continued to pursue additional alternatives for the disposal of the zinc oxide material. Several disposal facilities began submitting price quotes. Four trucks were loaded with red brick demolition materials on January 20, 1999, for treatment and disposal. A second truck was loaded with drums labeled as arsenical flue dust (40 percent copper) and shipped off site to Noranda for recycling on January 22, 1999. A total of one hundred sixty drums were shipped off site for recycling. ERRS completed cleaning the Franklin Smelting office and locker rooms, and the street sweeper was used on the floor of the smelter building, the north yard, and other locations on site. Vacuum operations for dust continued in the smelter building. An ERRS welder continued to cut various steel members in the smelter building charging shed as part of demolition operations. A personal air sample was collected this week during this operation. ERRS transferred scrap steel from demolition activities in the smelter building and transported and staged it in the north yard to be decontaminated and taken offsite for recycling.

January 24 through 29, 1999

The Acting Deputy Administrator Peter Robertson, Director of the Hazardous Site Cleanup Division Abraham Ferdas, and Branch Chief Dennis Carney were on site on January 26, 1999, to observe site operations. A Noranda representative was on site this week to inspect the remaining materials on site and to discuss continued railcar removal operations with the OSC and the ERRS T&D coordinator. Ontario Northland Railroad removed an additional six railcars from the 50 that had been dedicated to run between Franklin Smelting and Noranda, leaving a total of 19 railcars available for use. It was estimated that approximately 100 railcar loads would be needed to finish sending all of the material that would be going to Noranda. PWD was on site to inspect leaking water mains. The leaking pipes were determined to be PWD's lines, to be used solely for fire response. No line repairs were attempted.

ERRS continued to coordinate the shipment of feedstock materials to Noranda for copper reclamation via railcar. On January 27, 1999, four railcars were transported offsite to Noranda. Railcars ONT 5071 and 5042 were loaded with materials from pile P043; railcar ONT 5086 contained materials from pile P002, with 29 bags of charging shed vac-dusts; railcar ONT 5041 contained materials from P002, with 28 bags of charging shed vacuum-dust. An additional four railcars were delivered to site on January 28, 1999. One hundred forty six railcars of feedstock material (including ERRS-generated vacuum-dust) were shipped to Noranda to date. ERRS continued to coordinate the transportation and disposal of zinc oxide (D008) tote bags. Two truckloads were transported off site during the week of January 24, 1999, to CWM for disposal. Problems continued with CWM's ability to fixate the leachable lead in the zinc oxide waste. This caused the OSC to task ERRS to re-bid the disposal. City Environmental was added to the list of facilities for shipment of the waste stream. Based upon samples sent to City Environmental, the facility claimed to have no volume restrictions or problems fixating the materials. A consent package was signed by EPA contracting officer on January 29, 1999. To date, 89 truckloads of zinc oxide material were shipped off site (to Mills Services and CWM). (Note, CWM observed that it may continue to accept limited quantities of zinc oxide materials because it may have developed the proper fixation procedure.) ERRS continued to coordinate the transport and disposal of the red

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brick demolition material and soils, shipping this waste stream to CWM. Four truckloads of this material was transported off site on January 25, 1999, bringing the total to 34 truckloads to date. This completed the removal of all the contaminated red brick waste stream material from the site. ERRS continued to coordinate the transport and disposal of wood debris, shipping this waste stream to City Environmental. One truckload of wood debris was transported off site on January 28, 1999, bringing the total to 52 truckloads. ERRS continued to coordinate the T&D of contaminated PPE with one truckload being transported off site to City Environmental, bringing the total to five truckloads. ERRS demolished baghouses 12 and 13 inside the smelter building this week. Dust control measures were in place during this operation. SATA videotaped demolition operations, and ERRS dismantled the baghouses for scraping and decontamination purposes. ERRS and SATA structural engineers continued to coordinate the planning of the demolition activities. ERRS continued to transport tote bags that were generated during vacuum-operations to the north side. On January 29, 1999, one tote bag ripped and spilled approximately 2 tons of smelter building floor material outside the property line adjacent to Castor Avenue. The spill was quickly cleaned up, and the shipment of the bags was discontinued until the cause of the damage could be identified and corrected. ERRS continued the vacuum operations in the briquette area of the smelter building and continued gross decontamination of feeders 1 and 2. ERRS scraped the soil in the converter area and staged it for disposal. ERRS used mini-excavators to scrape dirt and debris from railroad tracks on the north side. ERRS spread old hay in low spots outside the east fenceline, placed new hay bales outside the west fence line, on Balfour street, and along the east fenceline in order to control surface water run off. PWD was on site to inspect leaking water mains. The leaking pipes were determined to be the PWD's lines and were used solely for fire response. No line repairs were attempted.

January 30 through February 4, 1999

ERRS continued to coordinate the shipment of feedstock materials to Noranda for copper reclamation via railcar. Four railcars were transported off site to Noranda for a total of 150 railcars. ERRS continued to coordinate the transportation and disposal of zinc oxide (D008) tote bags. Two hundred five truckloads of zinc oxide material were shipped off site to date. One truck containing 78 drums of arsenical copper dust was shipped to Noranda for recycling. These were the last of the drums of arsenical copper dust left on the site and composed a total of 238 drums labeled as arsenical flue dust sent to Noranda.

ERRS structural engineer and SATA engineer agreed that stack in smelter building was structurally sound. ERRS continued to wash down the north and south yard lots. ERRS continued to control site runoff via the use of hay bales and street sweeper. ERRS demolished the baghouses 12 and 13 inside the smelter building into small pieces, decontaminated them, and shipped them as scrap steel. SATA continued to conduct perimeter air monitoring throughout the site.

February 5 through 12, 1999

All the zinc oxide that was in the deteriorated tote bags from the north yard were transported off site for disposal. Fifty-nine trucks loaded with zinc oxide were hauled to City Environmental. Two hundred sixty-four truckloads of zinc oxide were shipped to date. Demolition and vacuum operations continued inside the smelter building along with

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water being used for dust suppression. The exposed soil that was underneath pile P002 was sampled for the extent of its contamination. Two roll-off containers of scrap steel were sent off site for recycling. The skid pump unit arrived on site and was used to pump water from low areas of the site. The water was also used for dust control. The ERRS welder continued to cut various steel units around the site as part of demolition activities. SATA continued to conduct continuous perimeter monitoring throughout the site.

February 16 through 20, 1999

Thirteen trucks of zinc oxide (residual waste) were taken off site and shipped to City Environmental for stabilization and landfill disposal. Two hundred seventy-seven truckloads were shipped to date. Three railcars were shipped off site to Noranda, and two railcars were delivered to be loaded at a later date. The backhoe ram and shears were used for the demolition that continued inside the smelter building. Water was used for dust suppression during this demolition. Vacuum operations continued inside the smelter and briquette area. Railcars 5056, 5036, and 5034 were loaded with pile P002 and bagged fines from the converter building in the south yard. ERRS staged the demolition scrap from inside the smelter building. The ERRS welder continued to cut various steel structures in the smelter building as part of the demolition activities. SATA continued to conduct continuous perimeter monitoring throughout the site.

February 22 through 27, 1999

Four railcars were sent to Noranda for copper reclamation. The backhoe ram and shears were used in the smelter building as demolition activities continued. Water was used for dust suppression and decontamination of the scrap that was generated. Vacuum operations continued inside the smelter building and briquette areas. ERRS pressure washed the concrete in the north yard and used the street sweeper to reduce sources of dust.

SATA collected a personal air sample inside the smelter building during shoveling operations and an air sample on the south side. The samples were shipped to Pace Laboratories for analysis. SATA also replaced rental units with SATA-owned units, thus cost effective for the project. SATA also continued to conduct continuous perimeter air monitoring throughout the site. Several utility companies were on site to locate and mark out the underground lines prior to excavation.

March 1 through 6, 1999

1-800-DIG-SAFE was on site to finalize the location of the underground utilities for preparation of soil excavation. Conrail was on site to inspect the tracks and was concerned with a 1-foot long missing section that was separated from the railroad ties. Conrail decided that railcars will not be taken past this portion of the track, and this would only allow four railcars on the property at a given time. Mr. Tepletz was on site to inspect the shredder unit. Noranda could supply two or three trucks per week for back hauling hazardous substances with a weight limit of 80,000 pounds per truck, at a price of \$48 per ton.

ERRS submitted the first draft of the excavation work plan to EPA. Two railcars were sent to Noranda for copper reclamation. Demolition continued inside the smelter building via the

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backhoe ram, shears, and grappler. ERRS pressure washed the concrete areas on the north yard and used the street sweeper for dust suppression. ERRS finished cleaning under the truck scales. Five roll-off containers of steel were taken off site to a recycler. ERRS transported the bags from the vacuum-operations from the south side to north side to be staged for disposal at a later date. SATA continued to conduct continuous perimeter air monitoring throughout the site and also collected an air sample during demolition operations inside the smelter building.

March 8 through 12, 1999

The OSC contacts the ORC (Andrew Goldman) to discuss precious metals material and circuit panels in the warehouse and office. Mr. Saltzburg expresses an interest in removing this material from site. The OSC sent Mr. Saltzburg a letter on March 11, 1999, which stated that the arrangements for removal had to be done by March 31, 1999. Franklin's lawyers were on site and were asking questions about the site schedule and general site logistics. ERRS submitted the final draft of the excavation work plan to EPA incorporating OSC's comments.

Demolition continued inside the smelter building and included secondary units from the rocking reverb near the outer wall. Vacuum operations continued inside the smelter building around the briquette area. ERRS researched the feasibility of the repair of the onsite truck scales and also performed a cost analysis. It was decided that it would be beneficial to repair and calibrate the scales for use when excavation of contaminated soils commenced. ERRS analytical data returned and indicated that high levels of cadmium and lead in the northwest corner of the north side should be excavated. Samples taken from underneath the concrete pad of baghouses 14 through 19 need to be tested for TAL metals to determine if excavation is necessary. High levels of dust were detected due to high winds on March 12, 1999. ERRS used water and closed the double doors to the smelter building to control the dust migration. SATA continued to conduct continuous perimeter air monitoring throughout the site.

March 15 through 20, 1999

ERRS submitted a demolition work plan for a section of the charging area inside the smelter building. After reviewing the work plan the OSC also requested a Weston structural engineer to look at the demolition work plan.

The ERRS used a backhoe ram to demolish concrete footers of converter building. During operations, an ammonia odor was present in the work zone, causing work to cease. SATA conducted air monitoring and detected readings between 1 and 30 ppm in the area. ERRS conducted the operations using ammonia cartridges in Level "C" respirators. ERRS completed vacuuming the hopper in the third story of the briquette area. One truckload of wood debris was removed from the north yard. Two roll-off container of steel were transported for recycling. SATA continued to conduct continuous perimeter air monitoring throughout the site. Noranda notified ERRS that no more covered railcars were available and that other transportation options would be explored and presented to ERRS and EPA for approval.

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March 22 through 27, 1999

Franklin Smelting was unable to provide containers and transportation for the contaminated circuit board items from the north side of the site, as per Franklin Smelting's letter, dated, March 19, 1999. Per EPA letter dated March 11, 1999, these items will be placed with the other feedstock materials to be sent to Noranda for recycling and then continue decontamination these areas.

ERRS continued to use a backhoe ram to demolish the concrete footers of the south yard. ERRS pumped non-PCB-containing oil (less than 50 ppm) from the five transformers in the smelter building into six, 55-gallon drums. ERRS electrician was on site to shut off the power in some work areas, set up power grid maps, and to add security lighting. ERRS analytical data (TCLP) from baghouses 14 through 19 is back from the lab and contained leachable levels of lead up to 260 mg/L. ERRS coordinated the removal of five truckloads of zinc oxide offsite for disposal at City Environmental. Franklin Smelting could not supply containers to package the precious metals and circuit board items that were inside the warehouse. EPA would place these items with the other feedstock materials to be sent to Noranda for recycling. SATA received analytical data for an air sample, and it indicated that the engineering controls inside the smelter building were adequate because no elevated levels of particulates and lead were detected.

March 29 through April 2, 1999

The OSC contacted Mr. Saltzburg about Franklin Smelting's preferred method for dealing with the converters in the south yard. Mr. Saltzburg would evaluate the options and respond to the OSC. A SATA structural engineer inspected the structural integrity of areas of the smelter building. The engineer issued verbal agreement with ERRS plan and would follow up with a letter. SATA continued to conduct continuous perimeter air monitoring throughout the site.

ERRS continues demolition operations in the smelter building charging shed area. ERRS also removed the top half of FRP-1 tank to access its contents for load-out, transportation, and disposal. ERRS analytical data (TCLP) from samples of the concrete pad of baghouses 14 through 19 contained leachable levels of lead up to 260 mg/L. One truckload of used PPE was transported to City Environmental for disposal. Five truckloads of zinc oxide were transported to City Environmental for treatment and disposal. ERRS continued to wash the concrete areas and use the street sweeper to reduce sources of dust. One scrap steel roll-off container was transported off site to be recycled.

April 5 through 10, 1999

The American Microtrace contractor, Mike Deiker of Tetra Technologies, received a court injunction to claim multiple items on the site that are owned by American Microtrace. The OSC coordinated removal of these items with Tetra Technologies. The OSC successfully relocated the nine duck eggs to the fish and wildlife department at Tinicum Wildlife Refuge. Excavation begins in the north yard, and continued demolition in the smelter building charging shed area. The welding shop in the warehouse was cleaned and decontaminated. ERRS continued to cut and decontaminate the scrap steel, feedstock, and material from pile P030 generated during demolition and shipped this material to Noranda. The north side scale was repaired and

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calibrated within 110 pounds. FRP tank #1 was cut open, and the contents (liquid sludge) were transported to CWM. ERRS continued to wash the concrete areas of the north yard and use the street sweeper to relieve dust sources. A personal air sample was taken during operations in excavation area 1. ERRS decontaminated the kitchen and transformer area of the warehouse. Two truckloads of zinc oxide bags were sent to City Environmental, and this completes removal of all bulk zinc oxide material on-site. SATA continued to conduct continuous perimeter air monitoring throughout the site.

April 12 through 17, 1999

Mr. Saltzburg spoke to the OSC about concerns for the converters and also explained the business relationship between Franklin and American Microtrace, which claimed to own the zinc sulfate treatment system. ERRS sent a letter to Conrail stating what was planned for the excavation near the Conrail tracks.

Excavation and backfill continued in the north yard. Mill Services disposed of 53 truckloads of excavated contaminated soils from excavation area no.1. Mill Services is again having problems with its stabilizing process; due to this ERRS sent a bid request to CWM. Demolition operations in the smelter building continued. Two railcars containing feedstock material and two railcars containing material from pile P030 were transported to Noranda. Two roll-off containers of steel scrap were sent off site. Both of the FRP tanks were cut up and decontaminated by the ERRS crew. SATA received analytical data for a personal air sample, and the laboratory results for metals were all below the PEL. ERRS continued to wash the concrete areas and use the street sweeper for dust suppression. SATA continued to monitor the air throughout the site.

April 19 through 24, 1999

ERRS, OSC, and SATA discussed future actions to be taken to complete the north yard. American Microtrace sent a representative to check out the zinc sulfate recovery system. Conrail stated that a permit is required to perform excavation work on the right-of-way line adjacent to the Conrail rail line.

Backfilling of excavation area 1 is completed. Excavation of area 2 and 3 began. Thirty-seven truckloads of contaminated soil were shipped off site by Mill Services. Four railcars filled with copper fines from pile P019, and four railcars filled with material from pile P043 were shipped to Noranda. ERRS continued to vacuum the smelter building, wash the concrete pads, and use the street sweeper to reduce sources of dust. ERRS used the backhoe ram and shears for demolition in the converter area. Gutter buddies were changed around the site by ERRS. The pit next to the propane tank was drained and cleaned. Two truckloads of contaminated wood debris were transported to City Environmental for treatment and disposal. ERRS prepared the second floor of the office building for removal of the circuit board scrap material. ERRS began removing the contaminated log walls from the process bins. SATA continued to conduct continuous perimeter air monitoring throughout the site.

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April 26 through 30, 1999

American Microtrace provided the EPA with an equipment list and a copy of the court judgment allowing the retrieval of their equipment. Mr. Saltzburg gave verbal approval for American Microtrace to take all equipment contained within the zinc sulfate plant.

Excavation of the contaminated soil in areas 2 and 3 continues on the north side and was shipped to Mill Services for treatment and disposal. One truck containing copper fines from pile P043 was transported to Noranda for recycling. One truck containing contaminated wood debris was transported to Chem-Waste for treatment and disposal. ERRS continued to clean the second floor of the warehouse building. A 20,000-gallon tank was cleaned, and the tank sludge was recovered into a 55-gallon drum. Gross decontamination continued inside the smelter building on the south side. SATA collected personal air samples of the second floor warehouse, on the roadguard and scaleman, and of the scale house during operations. SATA also collected a sample of fill material that appeared to contain black slag material.

May 3 through 7, 1999

The contaminated soil from excavation in area 3 was staged in area 4. Two trucks containing copper fines material from pile P043 were transported to Noranda for recycling. ERRS cut up and cleaned two tanks on the north side and emptied the sludge into 55-gallon drums and cleaned up telephone and circuit material from the second floor of the warehouse. ERRS also drained and decontaminated Franklin Smelting owned heavy equipment and recovered the liquids into 55-gallon drums. ERRS completed laboratory-packing materials from the second floor warehouse and removed, packed, and staged biohazardous materials. ERRS electrician was on site to decommission power for the north side office building and zinc sulfate plant area. The American Microtrace contractor was on site to coordinate the removal of the zinc sulfate plant equipment. ERRS received analytical results from potential asbestos samples that were in the office ceiling tiles and piping wrap in the smelter building. The results turned up negative for asbestos. SATA worked on the structural engineering report, addressing the remaining structures in the smelter building.

May 10 through 14, 1999

Excavation, loadout, and backfilling of areas 2, 3, and 4 continued on site. Concrete rubble was used as ramp material for heavy equipment use in the smelter building. SATA received analytical results for samples taken from the north side loading dock under the degraded and exposed concrete (LD-1) (17000 ppm), from two areas in the roof of the office and warehouse: WR-1 (11000ppm) and WR-2 (6200 ppm). Due to the high lead content, disposal and recycling were recommended. The ERRS RM developed a work plan for the demolition of the loading dock, and it was approved by the OSC. ERRS continued draining and decontaminating the Franklin Smelting owned equipment and also completed laboratory-packing materials from the second floor warehouse. SATA investigated the UST fuel in the north yard, and found a 19-inch depth of gasoline in the UST and estimate that to be approximately 1,200 gallons remain. Gross decontamination operations continued in the smelter building on the south side. ERRS began the final washdown of baghouses 1 through 6 and removed some of the panels from the lower hoppers to pull out insulation that was covered with contaminated dust. Two roll-off boxes

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containing steel scrap were shipped off site to be recycled. ERRS used the street sweeper and fire hose to implement daily dust control.

May 17 through 21, 1999

American Microtrace was on site to demobilize its zinc sulfate recovery system. Tom Kuhns of Herr and Sacco, Inc. was on site to look over the oxygen plant for equipment removal on a later date. Mr. Saltzburg was on site to attempt to retrieve some paperwork from the office building, and the OSC updated him about the site schedule. ERRS drafted a work plan for the demolition of the maintenance shed, and the OSC gave permission to start the demolition activities in this area. Conrail and ERRS signed the permit allowing excavation of the contaminated soil along the Conrail railroad tracks adjacent to Franklin Smelting.

Excavation of area 2 was completed and excavation of area 3 and 4 continued. ERRS received the results for the samples of the green material collected in excavation area 3. The results indicated high levels of lead, and the disposal of the material with the other excavated materials was conducted. ERRS continued draining and decontaminating the Franklin Smelting owned heavy equipment. A backhoe ram was used for the initial demolition of the loading dock. Gross decontamination operations continued inside the smelter building on the south side. ERRS also drafted a safety plan for the lightning storms in the vicinity of the site, and was incorporated into the site health and safety plan.

May 22 through 28, 1999

ERRS drafted a work plan to address the installation of support trusses in the smelter building roof section leading to the maintenance shed. The draft was approved by the OSC. Mr. Saltzburg said that it would be EPA's decision to decide what was done with the converters as long as they are not damaged anymore. Conrail approved the proposed work plan for the removal of the contaminated material.

Heavy rains hindered the excavation in area 4 and the loading dock. Demolition continued on the loading dock and commenced on the maintenance building. SATA received results for two personal air samples; elevated lead levels were associated with both. The electrical vault pit in the north yard adjacent to Castor Avenue was cleaned out. Backfill was brought on site and staged for future use along the Conrail tracks.

June 1 through 5, 1999

ERRS performed demolition on the remaining north wall of the converter building and continued with the north side backfill and excavation at EX-4 and the loading dock. ERRS also performed decontamination of the on-site equipment and then staged the equipment on the former EX-1 and EX-2 areas. SATA received HZ-s0 and HZ-s1 data from EX-1 and EX-2. The data showed that the concentrations were well below the PEL. OSC Fox was authorized to downgrade the personal protection from Level "C" to level D in these areas. Gross decontamination continued in the smelter building on the south side. Fabricators began constructing a large doorway leading into the smelter building. Demolition of the smelter building's maintenance and transformer building continued. One truck of contaminated debris was shipped to CWM along with 19

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trucks of contaminated soil and slag. One truck of used PPE was shipped to City Environmental. One roll-off container of decontaminated scrap steel was sent to Allegheny for recycling. Two railcars were loaded with material from pile P-43 and were shipped to Noranda for reclamation. Multiple loads of backfill arrived on site to fill the loading dock area.

June 7 through 12, 1999

A site status report was prepared and presented for the Philadelphia Health Department for a Local Emergency Planning Committee (LEPC) meeting. SATA conducted air sampling of the Conrail excavation operations. The samples were collected downwind of the operations in the north yard and in the area of the warehouse roof operations. Andrew Toy of the Philadelphia Commerce toured the site and was briefed with the history and future operations. SATA continued to look into the contracting of a smelter expert to evaluate the condition and value of the converters.

Excavation began between the smelter building and the rail line. A Conrail representative periodically monitored railroad excavation. North side backfill operations continued, and areas completed included the Gas Manifold area and the electric vault area. ERRS worked in the warehouse, starting vacuuming the office and warehouse roof. Fabricators hung I-beams for use as supports in the smelter building. Excavation of contaminated soil in the south side's northwest corner began along with the decontamination of the green rail crane. Piles P051, P052, and P053 were excavated from behind the smelter building. One roll-off container of decontaminated scrap steel was sent to Allegheny for recycling. Two backhaul trucks and three railcars were shipped to Noranda for recycling. ERRS completed cleaning out the plenums at the base of the Torit baghouse.

June 14 through 19, 1999

Fabrication operations continued along the west wall of the smelter building. Concrete footers, support beams, and cross beams were incorporated into the fabrication. Decontamination of the Harris Shears began, and vacuum operations continued on the warehouse roof. Excavation was completed between the smelter building and the rail line. Excavation of contaminated soil between the south side's northern perimeter and Castor Avenue began and was then filled with 0.75-inch thick stone. Excavation of the contaminated soil between the north side's southern perimeter and Castor Avenue also began. One roll-off container of decontaminated scrap steel was sent to Allegheny for recycling. Four railcars were loaded with material from piles P052 and P053 and shipped to Noranda for recycling. These were the last of 182 rail transports shipped to Noranda. Ten, 22-ton dump trucks loaded with contaminated slag were shipped to CWM. One, 22-ton dump truck was sent to City Environmental. SATA initiated a bid process to hire of a smelter expert. ERRS performed demolition on the remaining north side rail lines to allow for the excavation of contaminated soils and submitted demolition plans for the afterburner and cooling towers to the OSC.

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June 21 through 26, 1999

American Microtrace was on site with a crane and removed the final zinc sulfate treatment equipment. A Weston engineer approved the demolition plan for the south side afterburner and cooling towers.

ERRS used the NLB pressure washer to decontaminate the concrete pad surrounding the office trailers and completed the demolition of the wooden bin areas on the north side. Seven loads were transported off site to CWM. Vacuum operations on the warehouse roof continued. ERRS completed fluid removal in the Harris Shears II building and drained two transformers near the scale house gate into drums. ERRS completed excavation of area 3 along the railroad tracks adjacent to PWD. Also a section of railroad spur was removed from outside the Franklin fence at the east end of the north yard. Thirty-three trucks of contaminated soil were shipped to CWM for transport and disposal. Fabricators continued with the installation of the support beams and tin sheeting and then filled the sono tubes with concrete. ERRS drained two transformers near baghouses 14 through 19 into seven drums.

June 28 through July 2, 1999

SATA and OSC Boyd escorted a prospective buyer of the Torit baghouse into the south yard for an inspection of the baghouse.

ERRS received backfill in excavation area 3 and compacted with a roller. Vacuuming operations on the warehouse roof were complete. ERRS filled cracks and holes with concrete to prevent any contamination migration. The final loads of contaminated soil from the north side were sent to CWM for transport and disposal. Five hundred and one trucks of soil and slag from the north side were shipped off site for disposal. ERRS began repairs and modifications to the railroad gate to prevent unauthorized access to the north side of the site. The fabricators installed the final support beams and freezer strips to the smelter building. ERRS continued gross decontamination of the briquette area of the smelter building via a fire hose and pressure washer. ERRS replaced the steel plate in the alley behind the smelter building to prevent unauthorized access.

July 6 through 10, 1999

The vacuum operations on top of the warehouse and office roofs were completed. All major excavation and backfill activities on the north side of the site were completed. One truckload of 87 drums of waste oil was shipped to Cycle Chem for disposal. ERRS conducted the repairs to the perimeter fencing and barbed wire. ERRS continued decontamination of the briquette area of the smelter building via a fire hose and pressure washer and began demolition of the upper levels of the cooling tower and afterburner. ERRS began excavation of the converter building floor. ERRS demobilized the transportation and disposal coordinator until further notice, and all transportation and disposal activities were halted until additional funds could be allocated to the ERRS ceiling.

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July 12 through 16, 1999

ERRS conducted the decontamination operations inside the offices, ceiling tiles and insulation were removed. ERRS also decontaminated the scale building by sweeping up the dust and debris. Loose debris and pieces of exposed metal were removed from Harris Shears I and II. ERRS hung tarps over the open areas of the briquette area to control the dust movement. Decontamination of this area also continued via the pressure washer. ERRS continued vacuuming the warehouse and torch cutting demolition of the cooling tower and afterburner. The pressure washer was also used to decontaminate the train rails that were removed from the north side. ERRS demolished and removed ducts that ran from baghouses 1 through 6 and through the west wall of the smelter building. One roll-off container of scrap steel was shipped off site to a local recycling facility.

July 19 through 24, 1999

ERRS continued the decontamination operations in the offices. The vacuum unit was used in the electric room on the first floor of the shredder building. Vacuum operations started on the roof of the oxygen plant, and vacuum dust was loaded into cubic-yard bags for later disposal. Sweeper operations with the tenant sweeper took place on the north side and along Castor Avenue. ERRS continued decontamination of the Harris Shears I and II with the use of a high-pressure washer. The current excavated soil was staged in the smelter building until time for disposal. ERRS finished draining all transformer oil from the south side oxygen plant transformers. The oil was drummed and transferred to the north side for storage. ERRS cleaned out debris and vacuumed the green railroad crane. Three roll-off containers of decontaminated scrap steel were shipped off site to a local steel recycling facility. Excavation of the contaminated soil on the floor area of the former transfer building continued. ERRS began to back-fill the drainage area in excavation area 4 as well as the converter building excavation. The crane on the south side was drained of all its fluids and decontaminated. This completed the decontamination of all Franklin Smelting-owned equipment on the site.

July 26 through 30, 1999

ERRS continued decontamination of the office building on the north side and completed the dry decontamination operations on the beams in the warehouse. Due to trespassing on the north side, filled tote bags were staged against the outside entrances to the warehouse. ERRS removed the concrete from the area adjacent to the southwest gate, in preparation for widening the gate for truck access during transportation and disposal operations. ERRS completed backfilling and compacting excavation area 4. ERRS completed vacuuming the roof of the oxygen plant and completed decontaminating the roof by pressure washing the cooling equipment. ERRS completed the construction of a 20-foot ramp to provide heavy equipment access for demolition operations. ERRS continued to backfill and compact the excavation area surrounding the converters. ERRS spread a tarp over a large open area of the smelter building behind the Torit baghouses, where metal siding was removed to facilitate the removal of various contaminated ductwork.

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August 2 through 7, 1999

The OSC spoke with Patrick O'Neil, attorney for the City of Philadelphia, and he informed the OSC that the city might be interested in purchasing the property for PGW. The OSC updated Mr. O'Neil on the actions taken on site to date and the future actions planned. Copper Smelting industry consultant, Mr. Robert Odle was on site to evaluate the condition of the converters, blast furnace, rocking reverb, and baghouses.

ERRS completed decontamination of the office building on the north side and continued decontamination of the warehouse. ERRS also completed backfilling of the converter building excavation area. ERRS continued the demolition of the cooling tower and afterburner in the smelter building. ERRS used the pressure washer to decontaminate the concrete pad in the south side courtyard area. Several small areas on the south side were excavated and backfilled with clean stone fill material or concrete.

August 9 through 13, 1999

PGW arrived on site and excavated a small area between the smelter building and Castor Avenue to gain access to an 800-pound per square inch (psi) gas main. PGW also put a meter on this main. SATA took five grab samples from soil under baghouses 14 through 19. These samples were sent to the lab for lead analysis.

Decontamination of the warehouse continued, and some items were saved and staged out of the way. ERRS used a walk behind floor sander to remove contaminants adhering to the wooden flooring on the first and second floor. Demolition of the blast furnace and surrounding apparatus began. Various holes and cracks existing in the south side's concrete base were filled with cement in an attempt to stop pollutant migration. The pressure washer was used to decontaminate the overhead crane, related equipment, and the Gradall. Four roll-off containers of scrap steel were sent to Allegheny for recycling. ERRS removed several pieces of sheet metal siding from baghouses 1 through 6 to investigate for contamination.

August 16 through 20, 1999

OSC Boyd conducted a site tour for the City of Philadelphia and PGW representatives interested in purchasing the south yard.

Decontamination of the warehouse was completed while decontamination of the garage area began. Demolition of the blast furnace and surrounding structures continues along with the decontamination of the briquette area. All the scrap steel from the blast furnace demolition was staged in roll-off boxes. Decontamination of the garage roof began and ERRS used the vac loader to remove contaminated dust from the area. Contaminated soil and debris were staged along the east wall inside the smelter building. Three roll-off containers of decontaminated scrap were sent to Allegheny. ERRS began sealing the ends of the three converters with steel plates and submitted a work plan for decontamination of baghouses 1 through 6 to the OSC.

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August 23 through 28, 1999

A pressure washer was used to decontaminate the multiple levels of the briquette area. ERRS completed vacuuming the garage roof and continued decontaminating the garage area on the north side. The lime from the silo was mixed with the soil pile in the smelting pile for disposal at a later date. ERRS chiseled away the slag from the converters, and steel plates were then cut and bolted onto the two openings of the converters for protection. All the scrap steel from the blast furnace demolition was decontaminated and staged in roll-off boxes. ERRS began decontamination of the storage sheds and applied the first coat of sealer to the sanded wood floors in the office and warehouse building. Four roll-off boxes containing scrap steel were sent to Allegheny for recycling. ERRS began sealing the garage and storage sheds in preparation of decontamination with the pressure washer. ERRS used the excavator and loader to place the conveyors and overhead cranes onto a flatbed tractor-trailer and taken to the north side equipment/scrap steel staging area. ERRS estimated that 12,500 tons of contaminated soil awaited disposal.

August 30 through September 3, 1999

Lead results from samples taken from exposed areas of the concrete slab and foundation under the degraded concrete around baghouses 14 through 19 and 20 through 23 prompted the OSC to task ERRS to demolish the concrete pad and excavate the soils below for disposal. The smelting expert recommended that baghouses 14 through 19 be demolished and scrapped. The final report from the smelting consultant was submitted to the OSC.

ERRS completed decontamination of the north side garage and continued decontamination of the scrap steel into roll-off boxes to be shipped to Allegheny. A fence contractor began repairs to the fence on the north side of the site and began to install the permanent fence along Castor Avenue on the south side of the site. ERRS also completed bolting on the steel plates over the ends of the converters, and the motors from the converters and rocking reverb were removed and staged in the warehouse. ERRS continued decontamination of the storage sheds and then applied a second coat of sealer to the sanded wooden floors on the second floor and the stairs of the office and warehouse building. ERRS began to decontaminate and vacuum the ERRS storage area on the first floor of the office and warehouse building. ERRS removed the end of the rocking reverb unit to gain access to the materials inside the unit.

September 7 through 11, 1999

ERRS completed decontamination of the office and warehouse - the garage meeting room. The fencing contractor continued to work on the site fence along the south side of Castor Avenue by removing the temporary fence and partially installing the permanent fence. Baghouses 14 through 19 were dismantled with the use of the shears. A contractor was on site to install a heavy plastic shrink-wrap over the converters for protection. ERRS conducted pressure washing operations in the briquette area. ERRS shoveled and cleaned loose debris from the smelter floor and used two vacuum loaders and two man-lifts and began to vacuum the smelter building ceiling and floors.

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September 13 through 18, 1999

ERRS conducted pressure washing operations in the briquette area with the hydro blaster and also began dismantling baghouses 20 through 23. ERRS shoveled and cleaned loose debris from the smelter building floor. ERRS health and safety officer worked on implementing the new OHM safety program. ERRS also continued to use the vacuum loaders and man-lifts to vacuum the smelter building ceiling, walls, and rafters. Hurricane Floyd hit the site, and high winds with flooding occurred in all work areas. Minimal wind damage occurred; however floodwaters had to be pumped for the next 2 days. The application of grease onto the converters, as recommended by the smelter expert, was started.

September 20 through 25, 1999

ERRS continued to use the two man-lifts and two vacuum loaders to remove the contaminated dust from the smelter buildings' upper walls, ceilings, and rafters. ERRS also began to disassemble baghouses 20 through 23. ERRS continued to pressure wash the briquette area. The uneven areas of the floor around the stack in the smelter building were cleaned of loose debris, then stone fill was added to holes. ERRS built a drainage channel and sump outside of the smelter building along Castor Avenue as a collection point for contaminated runoff. ERRS used the skid unit and sump pumps to remove floodwaters from the work areas. Decontamination of the rocking reverb began.

September 27 through October 2, 1999

EPA received an additional sum of \$2,781,469, which raised the ERRS ceiling to \$15,170,007.

ERRS continued the operations on baghouses 20 through 23 and prepared for concrete operations on the smelter building's floor. Several sections of the smelter building walls were unstable and had to be reinforced. Decontamination efforts began on baghouses 1 through 6 and ERRS used the vacuum unit to suck the loose dust lying on the unit's top. One 100-ft stack, one 35-foot stack, and one ammonia tank located on the south side's concrete pad were removed using a crane. Bagged dust from the roofs of the office/warehouse building were loaded into three, 22-ton trucks and sent for disposal. ERRS began pouring a concrete floor in the smelter building to facilitate a more level foundation for manlifts to maneuver during decontamination operations.

October 4 through 8, 1999

Results from the personal air sample collected in the baghouse yielded a high lead level of 4,400 micrograms per cubic meter; therefore, the crew would continue to use PAPRs, which have an upgrade level of 50,000 micrograms per cubic meter. A representative from MDC which markets the slag material that was generated during Franklins Copper reclamation that had been staged on an adjacent property, informed the OSC that its operations would stop in the near future, and the property would be left with no maintenance to prevent off property migration of contaminants.

ERRS continued to decontaminate baghouses 20 through 23 and received six truckloads of cement, which were poured on the smelter building floor to facilitate man-lift traffic during

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ceiling decontamination. The ERRS loaded and shipped one roll-off container of decontaminated steel debris to a local recycling facility. The ERRS replaced the blue tarp on the smelter wall of the briquette area with framing lumber, which would be used to secure metal siding. Detailed decontamination continued on baghouses 1 through 6, and ERRS removed the metal sheeting and contaminated insulation inside of them. ERRS patched the holes in the plastic shrink-wrap, which was covering the converters. Decontamination inside the rocking reverb began. A new fence gate was installed at the main driveway of the south yard. ERRS welded a steel sheet to the north wall of the warehouse to secure an open hole in the wall.

October 11 through 16, 1999

International Petroleum Corporation arrived on site to pump out the contents of the UST located in the north yard by the warehouse. Approximately 1,450 gallons of a gasoline and water mixture was removed. SATA collected a personal air sample during decontamination operations at baghouses 1 through 6.

ERRS received five truckloads of cement, which was poured onto the smelter building floor. Twenty-seven truckloads of lead-contaminated soil and debris waste was sent to CWM for disposal. Installation of sheet metal began on the smelter building wall near the briquette area, this area was left open due to the demolition of the shop area that shared a common wall with the smelter building. Decontamination of baghouses 1 through 6 continued, and ERRS also continued to vacuum the inside ceiling of the smelter building. ERRS completed decontamination of the rocking reverb. Oil was found in the splice box and was tested and contained PCB concentrations exceeding 50 ppm. The oil was pumped into a 55-gallon drum, and the box was decontaminated and filled with cement.

October 18 through 23, 1999

SATA received analytical results of samples collected at baghouses 1 through 6 that revealed concentrations of cadmium, copper, lead, and zinc that were higher than their PEL's.

ERRS began cutting access panels in the alley wall behind the smelter building. ERRS also removed 36 non-hazardous drums destined for Cycle Chem. One drum contained solid materials, which needed landfilling, and the other 35 drums contained liquids and would be fuel blended. Disposal of the smelter building soil and debris pile continued, and 148 truckloads on the south side were shipped. Installation of the sheet metal on the outside of the smelter building wall in the briquette area was completed. Decontamination continued on baghouses 1 through 6. Two truckloads of used PPE were shipped to CWM. ERRS continued to vacuum the inside ceiling of the smelter building and started to decontaminate the base of the rocking reverb via power tools and hand tools along with the power washer.

October 25 through 29, 1999

ERRS finished cutting the access panels in the alley wall behind the smelter building. Then ERRS removed the contaminated soil and debris that had accumulated between the wall and the concrete berm and between the berm and the Philadelphia Gas Works fence. ERRS removed three drums of PCB-containing oils, two drums containing PCB-contaminated diesel rinsate, one

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drum containing PCB-contaminated absorbents and solids, and one transformer shell to Safety Kleen. Disposal of the smelter building soil and debris continued, and 229 truckloads were shipped to date. Relocation of baghouses 20 through 23 was completed. Decontamination of baghouses 1 through 6 continues while baghouses 14 through 19 and 20 through 23 had their concrete pads demolished. Soil excavation from under the pads has begun. ERRS completed the decontamination of the base of the rocking reverb.

November 1 through 6, 1999

Excavation and load out of contaminated soil and debris found under former baghouses 20 through 23 continued this week and the material was shipped to CWM. As shipments continued, organic odors and oil-stained soils were encountered. SATA sampled the soil for PCBs and the laboratory analysis indicated that PCBs were non-detectable in all of these samples. ERRS relocated the CRZ to a CON-EX box, which was stationed on the east side of the converters. Detailed decontamination inside the smelter building continued, and ERRS used pressure washers and vacuum units to remove the remaining contaminants. Contaminated soil that was found under the former transformer pad, which was adjacent to the oxygen plant, was removed. The area was then tamped and filled with clean soil. Decontamination was completed along the steel wall located in the alley behind the smelter building and was then backfilled with stone. Excavation of contaminated soils found along the western fence began on the south side. ERRS used a backhoe-ram to break up the concrete pieces from the baghouse 20 through 23 pad.

November 8 through 13, 1999

ERRS continued decontamination of the large intake vents of the Torit baghouses. Excavation and shipment of the contaminated soil found under baghouses 14 through 19 and 20 through 23 pads resumed. ERRS welded the access panels back onto the steel wall in the alley behind the smelter building. ERRS dismantled the CRZ inside the oxygen plant by removing all the equipment, plastic lining, and carpets. Decontamination inside the smelting building continued, and ERRS received stone to fill the pits found on the floor of the building. The excavation of the contaminated soil found along the western fence of the south side also continued along with the hoe-ram being used to break up concrete from baghouses 14 through 19 and 20 through 23. Baghouses 20 through 23, which were relocated by the PGW fence line, were tack welded together to insure their stability. Removal of the contaminated material from behind the oxygen plant began.

November 15 through 20, 1999

Decontamination began inside the oxygen plant. ERRS excavated the soil that was under and around the Torit baghouses. Backfill was completed in the smelter alley, and the access panels were replaced. Contaminated solids were removed from the rocking reverb area. Decontamination inside the smelter building continued and seven loads of cement were poured onto the prepped stone inside the building. Excavation of the contaminated soil behind the oxygen plant and along the western fence was completed. ERRS sampled outside the double doors of the smelter building for PCBs and the analytical data stated that the soil was not contaminated. Thirty trucks of contaminated soil were loaded and shipped to CWM.

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November 22 through 24, 1999

ERRS completed the backfilling along the western wall of the south side yard adjacent to PGW. Smelter building decontamination continued, and backfill and grading operations were completed in baghouses 14 through 19 and 20 through 23 pad areas. Gabion baskets filled with stone were constructed for use along the deteriorated western wall adjacent to PGW due to the 3-4 foot differences in surface elevations. ERRS secured the site for the thanksgiving holiday site shutdown.

November 26 through December 4, 1999

Med-Flex was on site to remove one box of biohazardous material from the site.

ERRS completed filling the Gabion baskets with stone along the western wall adjacent to PGW. Decontamination inside the smelter building continued along with a detailed cleaning inside of the oxygen plant. ERRS poured concrete over the areas in the smelter building around the rocking reverb, between baghouses 1 through 6, the Torit baghouse, and outside the briquette area.

December 6 through 11, 1999

In response to a Freedom of Information Act (FOIA) request, an attorney representing DCE Inc., was on site to go through and copy selected photographs of the former converter building and baghouse. Decontamination inside the smelter building and inside the oxygen plant continued. ERRS fabricated brackets for barbed wire installation on the south side rolling gate and the alleyway steel wall behind the smelter building. The barbed wire was then installed along the top of the gate and wall. ERRS poured concrete in the smelter building around the rocking reverb, between baghouses 1 through 6, Torit baghouse, and outside the briquette area. The punch list was compiled by the OSC and given to ERRS to work on the tasks.

December 13 through 18, 1999

Decontamination inside the smelter building continued. A final wash down of the south courtyard with a pressure washer continued. ERRS completed cleaning the inside of the oxygen plant and completed hanging the barbed wire on the bottom of the railroad gate. ERRS worked on the rusted-out gutter area that had been pouring water into the stack area on the smelter building roof. ERRS covered the roof with corrugated roofing and then sealed it with roofing cement. One load of contaminated PPE was shipped off site to CWM. ERRS worked on the tasks from the penny list. SATA completed the sampling plan for the final air-sampling event inside of the smelter building.

December 20 through 23, 1999

Decontamination inside the smelter building continued. Three high-volume air samplers were obtained and set up inside the smelter building, and one sampler was set up near the oxygen plant as the background. Final wash down of the south courtyard with a pressure washer continued.

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ERRS finished all fence repairs on the north side of the site and finished washing the floor inside the smelter building. ERRS also began preparation for demobilization.

December 27 through 29, 1999

The site cleanup operations were shut down for the week between Christmas and New Year. SATA conducted an aggressive high-volume air-sampling event inside the smelter building.

January 1 through 7, 2000

High volume air sample data was received from the laboratory. The samplers contained lead ranging from 79 to 120 micrograms per cubic meter and zinc from 220 to 320 micrograms per cubic meter, which is above the PELs for these metals established by OSHA. ERRS cleaned out the skid pump unit and greased the gears on the rocking reverb unit. ERRS also drained and sealed the water tanks in the north end of the smelter building. Demobilization of the heavy equipment begins.

January 10 through 14, 2000

ERRS completed cleaning out the skid pump unit and greased the gears on the rocking reverb unit. ERRS also drained and sealed the water tanks in the north end of the smelter building. The rental company was on site to demobilize the heavy equipment.

January 17 through 21, 2000

ERRS continued detailed vacuuming inside the smelter building. ERRS continued to demobilize the remaining equipment that was no longer needed. SATA continued to sample the inside of the smelter building with the high-volume air samplers. ERRS continued to work on the items on the punch list.

January 24 through 28, 2000

After further cleaning SATA, again performed an aggressive air sampling round in the smelter building. The results indicated that all the lead and cadmium concentrations were below the PELs.

ERRS used concrete to seal the ledges of the smelter building where the concrete met the corrugated steel wall. ERRS shipped one scrap metal roll-off container offsite for recycling. ERRS continued decontaminating equipment that was no longer needed on site. ERRS excavated a small sump area between baghouses 1 through 6 and the briquette area in the south yard where some decontamination water had drained. ERRS then backfilled the area with stone. A major snowstorm limited activity this week.

January 31 through February 4, 2000

ERRS shipped one drum of non-hazardous mixed oil to Cycle Chem, Inc., for recycling and shipped one truckload of used PPE, fire hoses, and tote bags to CWM. One non-hazardous waste

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roll-off container was also shipped off site for disposal. ERRS used cement to finish sealing the ledges of the smelter building where the concrete met the corrugated steel wall. A snow and sleet storm limited activity this week.

February 7 through 15, 2000

All work activity pursuant to the action memorandums dated February 12, 1998, and June 25, 1998, was completed by February 15, 2000. OSC Boyd transferred responsibility and control of Franklin Smelting to Michael Saltzburg.

ERRS completed its punch list of remaining tasks. All trailers, power and water utilities, and 24-hour security ended. ERRS decontaminated and demobilized all remaining equipment on site, including site dumpsters and heavy equipment. ERRS and SATA demobilized from the site.

7.0 PROBLEMS ENCOUNTERED AND RECOMMENDATIONS

Some problems were encountered during the decontamination processes of site and offsite activities. These problems are discussed below.

A minor problem arose with the PWD during the initial decontamination processes. PWD wanted the majority of its facility to be decontaminated, but it was decided that just the high occupancy areas where dust had a high probability of would be decontaminated.

Also, during the decontamination process in the smelter building, the smelter dust presented a problem. Even though the dust was sprayed with water and then vacuumed, the dust was still airborne. This caused the doubling and tripling of decontamination efforts.

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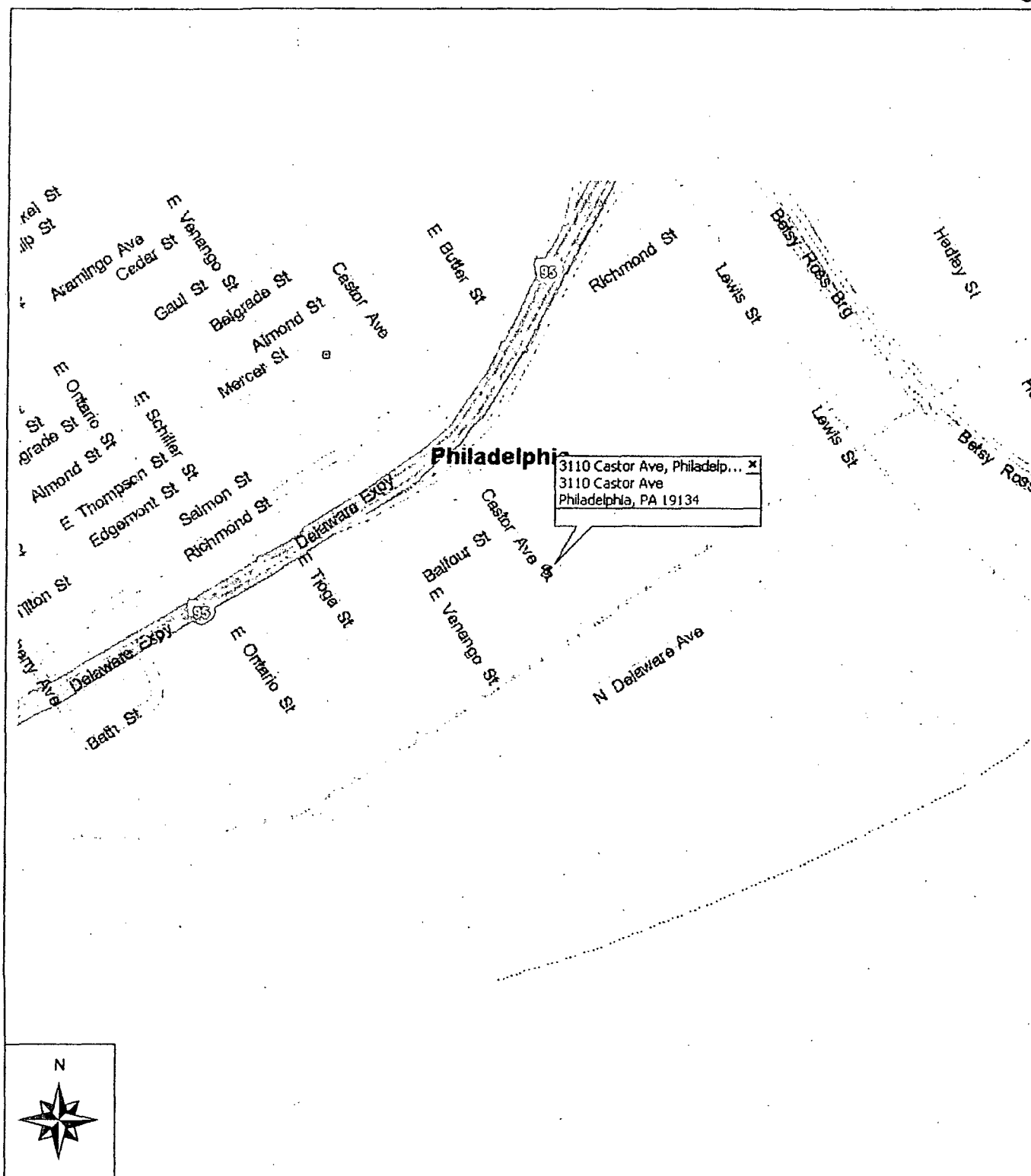
APPENDICES

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**APPENDIX A
SITE LOCATION MAP AND SITE SKETCH**

ORIGINAL



Source: Microsoft Streets & Trips 2001, Microsoft Corporation

NOT TO SCALE

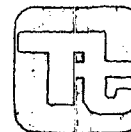
FIGURE 2: SITE LOCATION MAP

FRANKLIN SMELTING SITE
PHILADELPHIA, PA



EPA Contract No. 68-S3-00-02

TDD No. 03-00-08-0006



Tetra Tech EM Inc.

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**APPENDIX B
FUNDING DOCUMENTS**

ORIGINAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

FEB 12 1998

SUBJECT: Approval of a Funding Request for a Removal Action
Franklin Smelting Site Philadelphia, PA

FROM: Abraham Ferdas, Acting Director 
Hazardous Site Cleanup Division (3HS00)

TO: Timothy Fields, Assistant Assistant Administrator
Office of Solid Waste and Emergency Response (5101)

THRU: Stephen D. Luftig, Director
Office of Emergency and Remedial Response (5201)

ATTN: Thomas R. Sheckells, Director
Region III Accelerated Response Center (5201G)

ISSUE

The attached Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Funding Request pertains to the Franklin Smelting Site, located in Philadelphia, Philadelphia County, Pennsylvania. A removal assessment performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.415, has identified a threat to the public health and welfare and the environment posed by the release or threat of release of hazardous substances (lead, cadmium, arsenic, PCB) at the site.

The OSC has determined that the conditions at the Franklin Smelting Site meet the criteria for initiating a Removal Action under Section 300.415 of the NCP. Funds have been requested in the amount of \$1,981,000 of which approximately \$1,840,000 are Extramural Costs to mitigate the threats posed by this site. Pursuant to Delegation of Authority 14-1-A giving the Director, Hazardous Site Cleanup Division (HSCD) authority to approve CERCLA Removal Actions with a total cost of less than \$2 million and completion within 12 months, Region III has approved this request for funds.

Attachment: Initial Funding Request

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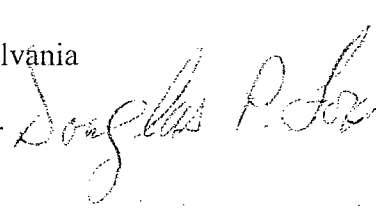
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania, 19107-4431

FEB 12 1998

SUBJECT: Request for Funding for a Removal Action
Franklin Smelting Site
Philadelphia, Philadelphia Co., Pennsylvania

FROM: Douglas P. Fox, On-Scene Coordinator
Removal Response Section (3HS31)

TO: Abraham Ferdas, Acting Director
Hazardous Site Cleanup Division (3HS00)



I. ISSUE

A removal assessment performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, by the On-Scene Coordinator (OSC) has identified a threat to human health and the environment due to high concentrations of hazardous substances (e.g., lead, cadmium, and arsenic) in various media at the Franklin Smelting and Refining Corporation facility (Site) located at 3100 Castor Avenue within the city of Philadelphia, Pennsylvania. Lead, cadmium, and arsenic are hazardous substances within the meaning of Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) since they are listed as such at Section 302.4 of the NCP. Polychlorinated biphenyl (PCB) contamination is also suspected at the Site. According to available analytical data, hazardous substances have been and may continue to be released from the Franklin Smelting and Refining facility into the soil, air, and surface water. The OSC, in consultation with EPA's Air, Water, and Hazardous Waste personnel as well as representatives of the Commonwealth of Pennsylvania and the City of Philadelphia, determined that the Site meets the criteria for a Removal Action under Section 300.415 of the NCP.

This Request for Funding (Action Memorandum) requests approval for funds to conduct a time-critical Removal Action deemed necessary to minimize ongoing release of high levels of hazardous substances from the Site. The Removal Action will minimize the release of high concentrations of hazardous substances from the Site by removing bulk quantities of contaminated solids, stabilizing remaining hazardous substances, and modifying Site drainage, as needed. Funding in the amount of \$1,981,000, of which \$1,840,000, are extramural funds, is requested for removal activities at the Site. There are no precedent-setting issues associated with the proposed response action.

II. BACKGROUND

The Franklin Smelting and Refining Corporation (Franklin) is a copper smelting facility which has operated at the site since 1935. The facility is now shut down. The facility encompasses two city blocks, is transected by Castor Avenue in a flat, highly industrial area of Philadelphia. Site access is restricted, however local industries, businesses, trespassers, and pedestrians are subject to hazardous substances' exposure from the offsite migration of the Site's contaminants.

B. Site Background

EPA's Region III Hazardous Site Cleanup Division initiated a removal assessment at the Franklin Smelting Site in response to several issues, including a request from the Pennsylvania Department of Environmental Protection (PADEP) for assistance in the investigation of potential Resource Conservation and Recovery Act (RCRA), Underground Storage Tank (UST), and storm water drainage violations at the facility; and reports from EPA Region VII that the facility had possibly shipped hazardous material without proper manifests. EPA's Facility Inspection Program (FIP) was requested to conduct a multimedia inspection at the Franklin Smelting Site following investigations into Site operations by the EPA Region III Water Protection Division and the EPA Region III Office of Enforcement Coordination. Franklin Smelting has also been identified by the City of Philadelphia as being in significant noncompliance with the city's wastewater discharge permit. The facility is allegedly in violation of a Clean Water Act Consent Order issued by EPA Region III and a Clean Air Act Consent Decree. Potential RCRA violations exist for suspected shipment of hazardous waste without a manifest, illegal hazardous waste units, and storage and improper leak detection for their underground storage tanks.

Following several access delays by the facility owner, the OSC initiated a site assessment on 30 September 1997. Analytical results from this assessment confirmed the presence of lead, cadmium and arsenic at the surface in high concentrations. A multimedia inspection of the Franklin Smelting Site was conducted 15 October, 1997. Observations made during the inspection include:

- * Approximately 200 55-gallon metal drums stored on wooden pallets. Many of the drums showed signs of significant deterioration and were leaking onto the ground. Drums were marked with labels indicating they contained "arsenical dust, UN 1562."
- * Several hundred large nylon tote bags containing baghouse dust were found throughout the site. The bags were piled together and many of them were torn open and spilling onto the ground. Analysis indicated that this material contained 80,000 mg/kg total lead and 109 mg/L of leachable lead.
- * Large piles of slag materials used as product in the smelting processes were found

throughout the site. Analysis of this material revealed 17,200 mg/kg total lead and 46 mg/L of leachable lead.

- * Off property migration of contaminants was suspected due to the black granular material identified outside of the north yard fence line adjacent to Castor Ave. Analysis of this material indicated 39.4 mg/L of leachable lead.
- * Visible stains were observed on the bottom of two transformers; labels indicated that the transformer oil had been tested at less than 50 parts per million polychlorinated biphenyl's (PCB's).
- * An electrical room contained two large capacitors and two large transformers with labels indicating Askarel (a PCB containing oil) and a non-flammable liquid.

Operations at the Site, due to the high lead content of its feed stock, were the cause of the highest ambient air monitor lead concentration readings in the country. The Franklin Smelting and Refining Corporation has been cited numerous times by the Philadelphia Air Management Division in the past ten years for excess particulate and lead emissions into the ambient air around this Northeast Philadelphia facility based on both in-facility inspections and ambient lead monitoring results. The high lead readings forced EPA Region III to issue a State Implementation Plan (SIP) call to the City of Philadelphia forcing the local agency to develop source-specific regulations applicable to Franklin requiring lead emission reduction. The city order developed and executed with Franklin required the company to install additional emission control equipment as well as improve its internal management and emission response procedures with the goal of bringing the area into compliance with the National Ambient Air Quality Standard (NAAQS) for lead (1.5 mg/m³ annual maximum quarterly average). Franklin failed to comply with the city order. Given the continued noncompliance and high lead levels EPA conducted an investigation of the facility and issued a Notice of Violation (NOV) in April of 1995. During fiscal year 1996 a Federal Consent Decree was negotiated and executed; the Decree was entered in early 1997. The Decree required total compliance by Franklin by the end of March, 1997. Franklin was unable to meet this deadline. The newly installed control equipment failed to meet design specifications. Air monitoring revealed that the quarterly monthly average levels were 6.72 mg/m³ during the April- June 1997 quarter. Additionally, the Occupational Safety and Health Administration (OSHA) also cited Franklin for excess lead exposure to its employees on August 7, 1997. EPA and OSHA have been in extensive contact and have coordinated their actions to reduce the risk posed by the Site to the environment and public and worker health. The Philadelphia Industrial Development Commission has a substantial outstanding loan to Franklin and currently holds a lien on the property.

Franklin ceased its operations in September 1997. Since shutdown of the facility, there have been no monitored ambient air violations.

C. Quantities and Types of Substances Present

Analytical results from samples collected during the removal assessment on 30 September 1997 revealed lead levels ranging from 13,200 up to 80,300 mg/kg in onsite samples. Elevated cadmium (1,490 mg/kg), arsenic (90.3 mg/kg), copper (335,000 mg/kg), and zinc (218,000 mg/kg) were also detected. These samples were collected from various stockpiled materials on the facility including the baghouse dust material exposed to the elements at the bagging station.

The EPA multimedia inspection of the Franklin Smelting Site conducted on 15 and 16 October 1997 revealed high leachable levels of metals contamination. A leachate analysis of a grab sample of one of several hundred bags containing dust from the facility's baghouse revealed 109 mg/L of lead and 7.12 mg/L of cadmium. The RCRA Toxic Characteristic Leaching Procedure (TCLP) regulatory limits are 5.0 mg/L for lead and 1.0 mg/L for cadmium. The baghouse dust is a RCRA hazardous waste exhibiting the characteristic of toxicity. Analysis of a sample of the same material exposed to the elements during the removal assessment revealed total lead at 80,300 mg/kg and cadmium at 1,490 mg/kg.

Material stored in the 55-gallon drums in the facility's north yard contained 42.8 mg/L of leachable lead and 6.5 mg/L of leachable selenium. Many of these drums are old and corroded, some of which have already released hazardous substances onto the ground. Drums located in the warehouse contain 7.81 mg/L of leachable arsenic, 69.9 mg/L of leachable cadmium, 22.3 mg/L of leachable lead and 4.69 mg/L of leachable selenium. The TCLP regulatory limits for selenium and arsenic are 1.0 mg/L and 5.0 mg/L, respectively.

Slag material found in the north yard of the facility contained 46.2 mg/L of leachable lead, well above the TCLP regulatory limit of 5.0 mg/L. This slag material is presently being used as fill material at the facility.

Analysis of the levels of contaminants in surface waters migrating off-property to the Delaware River that have been monitored by the Philadelphia Water Department (PWD) have revealed that copper, lead, and zinc concentrations are orders of magnitude higher than acute toxicity criteria established by CWA for fresh water aquatic organisms (fish).

The various pieces of equipment found on the Site, including but not limited to, the blast furnace, baghouse, and converter furnace were observed to have large amounts of residual dusts on many of the horizontal surfaces. Some of these pieces of equipment are housed in buildings on the Site but portions remain open to the environment allowing for further off-property migration of contaminants. During the removal assessment dust accumulation was observed on building structures and process equipment, it is suspected that during routine material handling operations dust and particulates of the process materials became airborne and then lodged onto many of these lateral and horizontal surfaces of the building structure and process equipment. Sampling of the process materials in these areas indicated high levels of lead (27,000 ppm), cadmium (296 ppm), and arsenic (34 ppm). This contamination may become airborne and

continue to be released as wind, rain, and other weather enters the buildings through openings in the structures housing such equipment, through startup activities and operations should this facility commence to operate, and/or through removal of this equipment from the property for sale, reuse, or disposal.

D. National Priorities List Status

The Franklin Smelting Site is not on the National Priorities List (NPL) nor has it been evaluated for potential listing at this time. The OSC has forwarded site information to the Site Assessment Program for possible NPL evaluation.

E. State and Local Authorities' Roles

The OSC continues to coordinate and apprise local and state officials of site activities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(I), (iii), (iv), (v) and (vii) of Section 300.415 directly apply as follows to the conditions at the Franklin Smelting Site:

- A. 300.415 (b)(2)(I) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."

Although the Site is located in a highly industrial area of Philadelphia, residential homes and other commercial and industrial operations and offices are near the Site. The Site is also near the Delaware River and discharges surface runoff to the Delaware River. High concentrations of hazardous substances and hazardous wastes exist at/or adjacent to the facility and are not covered or secured. Although access to the facility is restricted by a fence, trespassers or other access is foreseeable as the Site remains dormant. Heavy metal contamination at the Site is likely to increase as the Site deteriorates. Passersby, trespassers, and local workers are subject to exposure to the high levels of metal contaminants outside of the facility fence via direct contact and to contaminants in the air. The OSC has witnessed heavy particulate matter migrating at and from the Site in wind gusts.

Recent reports to EPA Region III from the Philadelphia Fire Department HazMat Unit have indicated that there is significant evidence of trespassing into the facility. It is suspected that materials are being stolen from the Site.

- B. 300.415 (b)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a

threat of release."

Post-smelting materials (baghouse dust) containing lead, cadmium, and arsenic (hazardous substances as defined in CERCLA Section 101 (14)) are placed in large storage bags awaiting disposal. Many of these bags are in deteriorated or suspect condition posing a threat of release of their contents. Drums containing arsenical dust are also significantly deteriorated to the point of failure. Drums at the Site have spilled their contents to the ground.

- C. 300.415 (b)(2)(iv) "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate."

Piles of pre- and post-smelting materials are located at the Site and are not securely covered. Analytical data indicate that the piled materials and the surface soils at the Site contain high levels of hazardous substances such as lead, cadmium and arsenic. Lead, cadmium, arsenic, and other hazardous substances are found in surface soils outside of the facility fence at elevated concentrations indicating that these contaminants have already migrated from their source. Air monitoring conducted around the Site also indicates that the Site releases high concentrations of lead into the surrounding environment.

- D. 300.415 (b)(2)(v) "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released."

Due to the deteriorated condition of drums containing hazardous substances, open area storage of slag contaminated with high concentrations of hazardous substances, bags containing hazardous wastes, and highly contaminated surface soil, there is a high probability that precipitation and wind events will result in the off-property migration of additional hazardous substances. Migration will occur onto adjacent properties, into the air, and into the surface drainage which ultimately leads to the Delaware River. Particulate matter is observed migrating from the Site's contaminated areas in wind gusts. Past sampling events of the storm water effluent by the Philadelphia Water Department has indicated that lead, copper, and zinc have routinely shown up in analytical data. Franklin does not have a National Pollution Discharge Elimination System (NPDES) permit for discharges of pollutants or contaminants into the storm water system. The analysis indicates that copper, lead, and zinc are 1-2 orders of magnitude higher than acute toxicity criteria established by the Clean Water Act for fresh waters.

- E. 300.415 (b)(2)(vii) "The availability of other appropriate federal or state mechanisms to respond to the release."

Neither the Pennsylvania Department of Environmental Protection (PADEP) nor the City of Philadelphia possess the resources at this time to effect the necessary removal response action at the Site in a timely manner.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The actions proposed for the Franklin Smelting Site are designed to eliminate the threat posed by existing conditions at the site. Based on the review of background information and analytical data of the Franklin Smelting Site, the following actions are planned:

- * Further restrict site access to trespassers and provide 24-hour site security.
- * Develop and implement storm water and sedimentation control plan to minimize or prevent the migration of hazardous substances at and from the Site into waters.
- * Sample and analyze soils on the Franklin Smelting property.
- * Remove and segregate for disposal and/or stabilize, using appropriate cover, chemical stabilization, and/or in-situ stabilization, soils on the Franklin Smelting property contaminated with lead in excess of 1,000 ppm.
- * Sample, analyze the contents of drums, bags, above- and below-ground tanks, transformers, and other vessels and containers at the Site from which a release or threatened release of hazardous substances has occurred or may occur.
- * Remove and segregate for disposal and/or stabilize, using cover or by moving into a secure indoor area, the contents of all drums, bags, above- and below-ground tanks, transformers, and other vessels and containers at the Site from which a release or threatened release of hazardous substances has occurred or may occur.
- * Segregate for disposal those drums, above- and below-ground tanks, transformers, and other vessels and containers at the Site which the OSC determines cannot be reused.
- * Assess off-property migration of hazardous substances including lead, cadmium

and arsenic.

- * Prevent further migration of off-property hazardous substances by removing and segregating for disposal and/or stabilizing, using appropriate cover, chemical stabilization, and/or in-situ stabilization, soils outside the Franklin Smelting property contaminated with lead in excess of 1,000 ppm.
- * Decontaminate process buildings, the blast furnace, baghouse, converter furnace, briquette operation, and other process equipment found to be contaminated with hazardous substances by pressure washing or other similar methods deemed appropriate by the OSC. Dismantlement of portions of the contaminated furnaces, baghouse, briquette operation and equipment and/or partial building demolition may be necessary in order to properly remove the contaminants where pressure washing or other similar methods cannot be used. Contaminated water will be collected and properly disposed offsite in accordance with federal and state law. The OSC has considered, and will continue to consider, use of the least intrusive methods to remove contamination from structures and intends to dismantle such structures only where less intrusive methods will not result in proper decontamination.
- * Prepare contaminated materials (e.g., dusts, soils, liquids from vessels and containers, etc.) For proper transportation and disposal.
- * Transport the contaminated materials to an appropriate disposal and/or treatment facility.
- * Obtain confirmation of waste disposal and or treatment.
- * Backfill excavated areas and vegetate.

It is currently estimated that the project will run less than the statutory 12-month limit for removal actions, barring unforeseen circumstances or disposal restrictions.

B. Estimated Costs

Extramural Costs

Regional Allowance Costs
 ERCS
 SATA
 USCG/AST
 Subtotal

Proposed Cost

\$ 1,350,000
 150,000
 100,000
 1,600,000

Other Costs Not Funded from the Regional Allowance

15% Contingency	240,000
Total Extramural	\$ 1,840,000
<u>Intramural Costs</u>	
Direct Cost	45,000
Indirect Cost	96,000
Total Intramural	\$ 141,000
Estimated Total Project Ceiling	\$1,981,000

C. Contribution to Remedial Performance

The Franklin Smelting Site is not currently an NPL site. At this time, there are no plans for a long-term Remedial Action. The proposed Removal Action is consistent with accepted removal practices and is expected to abate the threats that meet the NCP removal criteria. The proposed action is not anticipated to impede future remedial responses at this Site.

D. Compliance with Applicable and Relevant and Appropriate Requirements (ARARS)

The proposed Removal Action alternative set forth in the Action Memorandum will comply with all Federal and State applicable and relevant and appropriate environmental and health requirements, to the extent practicable, considering the exigencies of the situation. ARARs include RCRA regulations found at 40 C.F.R. Parts 262 (Standards Applicable to Generators of Hazardous Waste), 263 (Standards Applicable to Transporters of Hazardous Waste), and 268 (Land Disposal Restrictions), TSCA regulations at 40 C.F.R. Part 761 (Polychlorinated Biphenyls), and Clean Water Act requirements and standards such as water quality criteria. This response action will reduce actual and potential airborne lead emanating from this facility and contribute to attainment of the Clean Air Act NAAQS for lead.

The OSC recognized that the Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (OSWER Directive No. 9355.4.12 (July 14, 1994)) represents the latest EPA guidance concerning lead cleanup and remediation actions under CERCLA and RCRA. While it is the OSC's desire to apply this directive to the proposed actions at this Site, it is not presently clear to the OSC how to do so for Removal Actions. Consequently, the proposed actions and the cleanup goals for lead have been developed for specific circumstances currently known at the Site based on the previously issued guidance (OSWER Directive No. 9355.4-02 (September 1989)), which recommended soil cleanup levels for lead of 1,000 ppm for protection of human health at industrial sites. The OSC will request state ARARS that apply to this site upon approval of this Action Memorandum.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no action is taken or the action is delayed, the release of high concentrations of hazardous substances from the Site will continue to occur. The Site has a history of release and the Company has a recent history of financial difficulty implying that immediate action by the Company is not likely.

VII. ENFORCEMENT

The EPA Region III Enforcement Section has been provided with all background information available to pursue any and all enforcement actions pertaining to the Franklin Smelting Site (see Confidential Enforcement Addendum).

VIII. RECOMMENDATION

Because the conditions at the Franklin Smelting Site meet the NCP Section 300.415 criteria for a Removal Action, I recommend your approval of the proposed actions and budget in this Request for Funding to abate the imminent threat to human health and the environment presented by the conditions described herein. Your approval would authorize funding in the amount of \$1,981,000, of which \$1,840,000 is for Extramural Costs. You may indicate your approval or disapproval by signing below.

APPROVED: Alvin Fench DATE: 2/12/98

DISAPPROVED: _____ DATE: _____

Attachment: Confidential Enforcement Addendum

ORIGINAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

JUN 25 1998

SUBJECT: Transmittal of a Request for a Ceiling Increase Resulting
in an Expenditure Over \$6 Million and a 12 Month
Exemption For Continued Removal Actions
Franklin Smelting Site
Philadelphia, Philadelphia Co., Pennsylvania

FROM: *DF* Douglas P. Fox, On-Scene Coordinator
Removal Response Section (3HS31) *[Signature]*

TO: Abraham Ferdas, Director
Hazardous Site Cleanup Division (3HS00)

ISSUE

The attached additional funding request pertains to the Franklin Smelting Site located in Philadelphia, Philadelphia County, Pennsylvania.

An assessment performed in accordance with the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 CFR Part 300, has identified an imminent and substantial threat posed by lead, cadmium, and arsenic which was generated over an extended period of time at this Site. The contamination poses a migration, inhalation, and direct contact threat to human health. The On-Scene Coordinator (OSC) requested and was granted \$1,981,000 on 23 February 1998, to conduct extensive stabilization of hazardous substances onsite.

Additional funds are necessary to continue the ongoing Removal Action to completion at the Site, as well as to dispose of the large quantities of lead, cadmium, and arsenic contaminated dust, ash, and debris present onsite. Removal activities cannot continue beyond the 12-month and \$6 million limit without the prior approval of the Assistant Administrator for Solid Waste and Emergency Response. The current Project Ceiling of \$1,981,000 is inadequate to complete the response, and a funding increase of \$17,505,000 is being requested to address existing threats posed to human health and the environment. The revised Project Ceiling is \$19,486,000, of which \$18,486,000 are Extramural Costs. I am hereby forwarding this request for your transmittal to the Assistant Administrator.

Attachment: Request for a Ceiling Increase

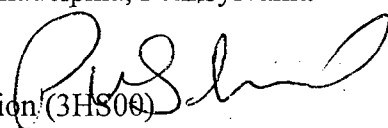
ORIGINAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania, 19107-4431

JUN 25 1998

SUBJECT: Request for a Ceiling Increase and an Exemption to the 12-month and \$2 Million Statutory Limits for a CERCLA Removal Action at the Franklin Smelting Site, Philadelphia, Pennsylvania

FROM: Abraham Ferdas, Director
Hazardous Site Cleanup Division (3HS00)



TO: Timothy Fields, Acting Assistant Administrator
Office for Solid Waste and Emergency Response (5201)

THRU: Stephen Luftig, Director
Officer Emergency and Remedial Response (5201G)

ATTN: Thomas R. Scheckells, Director
Region 3/8 Accelerated Response Center

I. PURPOSE

Additional funds and an exemption to the 12-month statutory limit are required to complete the Removal Action at the Franklin Smelting Site in Philadelphia, Philadelphia County, Pennsylvania (Site). The Site continues to meet the criteria for a Removal Action under section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415, and further meets the statutory exemption criteria for an emergency waiver as set forth in section 104(c)(1) of CERCLA, 42 U.S.C. § 9604(c)(1). EPA Headquarters approval is necessary pursuant to EPA Delegation 14-2-A, which authorizes the Assistant Administrator for Solid Waste and Emergency Response to approve an emergency waiver exemption where total removal costs will exceed \$6 million.

On 12 February 1998, Region III authorized the use of Federal funds to initiate Site actions at this closed copper smelting facility (Memorandum from Abraham Ferdas to Timothy Fields re "Approval of a Funding Request for a Removal Action: Franklin Smelting Site; Philadelphia" (February 12, 1998) ("February 12, 1998 Action Memorandum")). Preliminary stabilization efforts, including the implementation of surface water drainage controls, the temporary covering of debris and dust piles, the overpacking and staging of drums, the decontamination of on-site machinery, and the dismantlement of structurally unsound structures, are ongoing. Approximately 35,000 cubic yards of ash, dust, and debris containing elevated levels of leachable lead and cadmium remain on-site. Additional funds in the amount of

\$17,505,000 are required to complete the previously authorized actions, including decontamination of buildings and machinery, the dismantling of structurally unsound buildings, and the proper transport and disposal of hazardous substances and materials. There are no precedent-setting issues associated with the proposed response action.

II. BACKGROUND

A. Site Background

The Franklin Smelting and Refining Corporation (Franklin) is a copper smelting facility which has operated at the Site since 1935, and is currently shut down. The facility encompasses two city blocks, and is transected by Castor Avenue in a flat, highly industrial area of Philadelphia. Franklin's main operation consisted of purchasing feed stock to be smelted. The feed stock contained high levels of copper and also contained lead, arsenic, zinc, cadmium, and other heavy metals.

EPA's Region III Hazardous Site Cleanup Division initiated a removal assessment at the Franklin Smelting Site in response to several issues, including a request from the Pennsylvania Department of Environmental Protection (PADEP) for assistance in the investigation of potential Resource Conservation and Recovery Act (RCRA), Underground Storage Tank (UST), and storm water drainage violations at the facility; and reports from EPA Region VII that the facility had possibly shipped hazardous material without proper manifests. EPA's Facility Inspection Program (FIP) was requested to conduct a multimedia inspection at the Franklin Smelting Site following investigations into Site operations by the EPA Region III Water Protection Division and the EPA Region III Office of Enforcement Coordination. Franklin Smelting has also been identified by the City of Philadelphia as being in significant noncompliance with the city's wastewater discharge permit. The facility is allegedly in violation of a Clean Water Act Consent Order issued by EPA Region III and a Clean Air Act Consent Decree. Potential RCRA violations exist for suspected shipment of hazardous waste without a manifest, illegal hazardous waste units, and storage and improper leak detection for their underground storage tanks.

Following several access delays by the facility owner, the OSC initiated a Site assessment on 30 September 1997. Analytical results from this assessment confirmed the presence of lead, cadmium, and arsenic at the surface in high concentrations. A multimedia inspection of the Franklin Smelting Site was conducted 15 October 1997. Observations made during the inspection include:

- Approximately 200 55-gallon metal drums stored on wooden pallets. Many of the drums showed signs of significant deterioration and were leaking onto the ground. Drums were marked with labels indicating they contained "arsenical dust, UN 1562."

- Several thousand large nylon cubic-yard bags containing baghouse dust were found throughout the site. The bags were piled together and many of them were torn open and spilling onto the ground. Analysis indicated that this material contained 80,000 mg/kg total lead and 109 mg/L of leachable lead. It is estimated that approximately 5,500 cubic yards of baghouse dust remains on the property.
- Large piles of slag materials used as product in the smelting processes were found throughout the Site. Analysis of this material revealed 17,200 mg/kg total lead and 46 mg/L of leachable lead.
- Off-property migration of contaminants was suspected due to the black granular material identified outside of the north yard fence line adjacent to Castor Avenue. Analysis of this material indicated 39.4 mg/L of leachable lead.
- Visible stains were observed on the bottom of two transformers; labels indicated that the transformer oil had been tested at less than 50 parts per million polychlorinated biphenyl's (PCB's).
- An electrical room contained two large capacitors and two large transformers with labels indicating Askarel (a PCB containing oil) and a non-flammable liquid.

Operations at the Site, due to the high lead content of its feed stock, were the cause of the highest ambient air monitor lead concentration readings in the country. The Franklin Smelting and Refining Corporation has been cited numerous times by the Philadelphia Air Management Division in the past ten years for excess particulate and lead emissions into the ambient air around this Northeast Philadelphia facility based on both in-facility inspections and ambient lead monitoring results. The high lead readings prompted EPA Region III to require that the City of Philadelphia, under the State Implementation Plan (SIP), develop source-specific regulations applicable to Franklin requiring lead emission reduction. The city order developed and executed with Franklin required the company to install additional emission control equipment as well as improve its internal management and emission response procedures with the goal of bringing the area into compliance with the National Ambient Air Quality Standard (NAAQS) for lead (1.5 mg/m³ annual maximum quarterly average). Franklin failed to comply with the city order. Given the continued noncompliance and high lead levels EPA conducted an investigation of the facility and issued a Notice of Violation (NOV) in April of 1995. During fiscal year 1996 a Federal Consent Decree was negotiated and executed; the Decree was entered in early 1997. The Decree required total compliance by Franklin by the end of March, 1997. Franklin did not meet this deadline. The newly installed control equipment failed to meet design specifications. Air monitoring revealed that the quarterly monthly average levels were 6.72 mg/m³ during the April- June 1997 quarter. Additionally, the Occupational Safety and Health Administration

(OSHA) also cited Franklin for excess lead exposure to its employees on August 7, 1997. EPA and OSHA have been in extensive contact and have coordinated their actions to reduce the risk posed by the Site to the environment and public and worker health. The Philadelphia Industrial Development Commission has a substantial outstanding loan to Franklin and currently holds a lien on the property.

Franklin ceased its operations in September 1997. Since shutdown of the facility, there have been no monitored ambient air violations. There have been, however, particulate emissions from the property during high winds. Sediments are also carried by surface water runoff during rain events and is still occurring. These sediments are transported directly to the Delaware River through storm drains.

B. Removal Actions to Date

Removal Actions initiated in February 1998, have addressed the following:

- Restriction of site access.
- Temporary stabilization of off-property migration through surface water run-off and airborne particulates of extremely high lead contaminant levels.
- Overpacking and staging of approximately 300 drums of arsenical flue dust.
- Sampling, classification, and temporary stabilization of debris/dust/ash piles with a biodegradable foam/fiber spray application.
- Decontamination of a shredder and a shear unit on the north half of site; containerization of recovered dust and ash.
- Structural evaluation of site buildings and equipment; dismantlement of a structurally unsound stack and scrubber unit.
- Lead-dust decontamination from two Philadelphia Water Department buildings located directly adjacent to the Franklin Smelting North Yard; containerization of recovered dust and ash.
- Analytical characterization of materials present on site; volumetric estimations of quantities present.

C. Quantities and Types of Substances Present

Analytical results from samples collected during the removal assessment on 30 September 1997 revealed lead levels ranging from 13,200 up to 80,300 mg/kg in on-Site samples. Elevated cadmium (1,490 mg/kg), arsenic (90.3 mg/kg), copper (335,000 mg/kg), and zinc (218,000 mg/kg) were also detected. These samples were collected from various stockpiled materials at the facility, including the baghouse dust material exposed to the elements at the bagging station.

The EPA multimedia inspection of the Franklin Smelting Site conducted on 15 and 16 October 1997 revealed high leachable levels of metals contamination. A leachate analysis of a grab sample of one of several hundred bags containing dust from the facility's baghouse revealed 109 mg/L of leachable lead and 7.12 mg/L of leachable cadmium. The RCRA Toxic Characteristic Leaching Procedure (TCLP) regulatory limits are 5.0 mg/L for lead and 1.0 mg/L for cadmium. The baghouse dust is a RCRA hazardous waste exhibiting the characteristic of toxicity. Analysis of a sample of the same material exposed to the elements during the removal assessment revealed total lead at 80,300 mg/kg and cadmium at 1,490 mg/kg.

Material stored in the approximately 300 55-gallon drums in the facility's north yard contained 42.8 mg/L of leachable lead and 6.5 mg/L of leachable selenium. Many of these drums are old and corroded and have already released hazardous substances onto the ground. Drums located in the warehouse contain 7.81 mg/L of leachable arsenic, 69.9 mg/L of leachable cadmium, 22.3 mg/L of leachable lead and 4.69 mg/L of leachable selenium. The TCLP regulatory limits for selenium and arsenic are 1.0 mg/L and 5.0 mg/L, respectively.

Slag material found in the north yard of the facility contained 46.2 mg/L of leachable lead, well above the TCLP regulatory limit of 5.0 mg/L. This slag material is presently being used as fill material at the facility.

Analysis of the levels of contaminants in surface waters migrating off-property to the Delaware River that have been monitored by the Philadelphia Water Department (PWD) have revealed that copper, lead, and zinc concentrations are orders of magnitude higher than acute toxicity criteria established by CWA for fresh water aquatic organisms (fish).

The various pieces of equipment found on the Site including, but not limited to, the blast furnace, baghouse, and converter furnace were observed to have large amounts of residual dusts on many of the horizontal surfaces. Some of these pieces of equipment are housed in buildings on the Site but portions remain open to the environment allowing for further off-property migration of contaminants. During the removal assessment, dust accumulation was observed on building structures and process equipment. The OSC suspects that, during routine material handling operations, dust and particulates of the process materials became airborne and then lodged onto many of these lateral and horizontal surfaces of the building structure and process

equipment. Sampling of the process materials in these areas indicated high levels of lead (27,000 ppm), cadmium (296 ppm), and arsenic (34 ppm). This contamination may become airborne and continue to be released as wind, rain, and other weather enters the buildings through openings in the structures housing such equipment, through startup activities and operations should this facility commence to operate, and/or through removal of this equipment from the property for sale, reuse, or disposal.

The estimated volume of debris piles with bulk ash and dust from process buildings and equipment is estimated at approximately 35,000 cubic yards. Although specific levels of contaminants vary, analytical results have consistently shown elevated levels of leachable and total lead and cadmium. Recent sampling efforts have documented total lead levels up to 110,000 mg/kg, and total cadmium levels up to 7,200 mg/kg.

The total number of drums on site is estimated to be approximately 600. At least one building on site is suspected to house transformers containing PCB oils.

D. National Priorities List Status

The Franklin Smelting Site is not on the National Priorities List (NPL), but is currently being evaluated by the Site Assessment Program for possible promulgation to the NPL.

E. State and Local Authorities' Roles

The OSC continues to coordinate and apprise local and state officials of site activities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Section 300.415 of the NCP, 40 C.F.R. § 300.415, lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i), (iii), (iv), (v) and (vii) of this provision directly apply as follows to the conditions at the Franklin Smelting Site:

- A. 300.415 (b)(2)(i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."

Although the Site is located in a highly industrial area of Philadelphia, residential homes and other commercial and industrial operations and offices are near the Site. The Site is also near the Delaware River and discharges surface runoff to the Delaware River. High concentrations of hazardous substances are located on-Site and are not covered or secured. Although access to the Site is restricted by a fence, the Site remains dormant and trespassers may continue to access the property. Heavy metal contamination at the Site is likely to increase as the Site deteriorates. Passersby, trespassers, and local workers are subject to exposure to the high levels of metals

contaminants outside of the facility fence via direct contact and to contaminants in the air. The OSC has witnessed heavy particulate matter migrating at and from the Site in wind gusts.

Recent reports to EPA Region III from the Philadelphia Fire Department HazMat Unit have indicated that there is significant evidence of trespassing into the facility. It is suspected that materials are being stolen from the Site.

- B. 300.415 (b)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release."

Post-smelting materials (baghouse dust) containing lead, cadmium, and arsenic (hazardous substances as defined in CERCLA Section 101 (14)) are placed in large storage bags awaiting disposal. Many of these bags are in deteriorated condition and are releasing, or threaten to release, their contents. Drums containing arsenical dust are also significantly deteriorated to the point of failure. Drums at the Site have spilled their contents to the ground.

- C. 300.415 (b)(2)(iv) "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate."

Piles of pre- and post-smelting materials are located at the Site and are not securely covered. Current removal actions have addressed the piles that are outside by the application of a Geo-Foam material that will temporarily prevent the airborne off-property migration of hazardous substances from these areas at the Site. Analytical data indicate that the piled materials and the surface soils at the Site contain high levels of hazardous substances such as lead, cadmium, and arsenic. Lead, cadmium, arsenic, and other hazardous substances are found in surface soils outside of the facility fence at elevated concentrations indicating that these contaminants have already migrated from their source. Air monitoring conducted around the Site also indicates that the Site releases high concentrations of lead into the surrounding environment.

- D. 300.415 (b)(2)(v) "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released."

Due to the deteriorated condition of drums containing hazardous substances, open area storage of slag contaminated with high concentrations of hazardous substances, bags containing hazardous wastes, and highly contaminated surface soil, there is a high probability that precipitation and wind events will result in the off-property migration of additional hazardous substances. Migration will occur onto adjacent properties, into the air, and into the surface drainage which ultimately leads to the Delaware River. Particulate matter is observed migrating from the Site's contaminated areas in wind gusts. Past sampling events of the storm water effluent by the Philadelphia Water Department has revealed the presence of lead, copper, and zinc. Franklin does not have a National Pollution Discharge Elimination System (NPDES)

permit for discharges of pollutants or contaminants into the storm water system. The analysis indicates that copper, lead, and zinc are one to two orders of magnitude higher than acute toxicity criteria established by the Clean Water Act for fresh waters.

- E. 300.415 (b)(2)(vii) "The availability of other appropriate federal or state mechanisms to respond to the release."

Neither the Pennsylvania Department of Environmental Protection (PADEP) nor the City of Philadelphia possess the resources at this time to effect the necessary removal response action at the Site in a timely manner.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

The Franklin Smelting Site meets the criteria in section 104(c) of CERCLA, 42 U.S.C. § 9604(c), for continuation of a Removal Action beyond the statutory limitation of \$2 million and 12-months as follows:

- A. Section 104(c)(1)(A)(i) "Continued response actions are immediately required to prevent, limit, or mitigate an emergency"

Uncontrolled releases of lead-contaminated dusts and/or lead-contaminated run-off are expected to continue if proper decontamination of on-Site process buildings and equipment is not completed, and if proper transportation and disposal of lead-contaminated debris and dust/ash piles is not conducted. In addition, soils that are highly contaminated with leachable lead that have not been excavated are in direct exposure to the elements. Evidence of past off-site migration has been observed in that high levels of lead, cadmium, and arsenic were found at the Philadelphia Water Department facility located immediately adjacent to the Site. These elevated levels were found inside several manned process buildings. Sampling revealed lead as high as 15,000 ppm; cadmium as high as 310 ppm; and arsenic as high as 50 ppm. EPA has applied a biodegradable encapsulant to those contaminated materials on-site presenting a high potential for off-site migration. This encapsulant is advertised to stabilize these contaminated materials and prevent their migration for a period of only 3-6 months, depending on weather conditions. Continued response action is necessary to prevent the off-property migration of lead-, cadmium-, and arsenic- contaminated dusts and runoff and the associated risks to nearby residents, workers, and the environment resulting from such migration.

B. Section 104(c)(1)(A)(ii)

"There is immediate risk to public health or welfare or the environment"

The Site continues to pose a risk to the public health and the environment due to the presence of large quantities of hazardous substances in proximity to residents and workers as well as through off-property migration. Industries and businesses are currently operating immediately adjacent to the Site to the North, East, South, and West. Numerous residents and other industrial and business properties are also located within a quarter mile of the Site. In addition, surface water runoff from Site drains into storm drains which empty directly into the Delaware River. Approximately 35,000 cubic yards of lead- and cadmium-contaminated debris, dust, and ash present a direct inhalation threat to area workers and residents. Trespassing continues to be a problem notwithstanding EPA's security measures at the Site.

C. Section 104(c)(1)(A)(iii)

"Assistance will not otherwise be provided on a timely basis"

The Pennsylvania Department of Environmental Protection and the City of Philadelphia lack the resources necessary to mitigate the threats posed to human health and the environment.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The funds authorized through approval of this ceiling increase request will be used to continue implementing those removal response actions identified in the February 12, 1998 Action Memorandum:

- * Further restrict site access to trespassers and provide 24-hour site security.
- * Develop and implement storm water and sedimentation control plan to minimize or prevent the migration of hazardous substances at and from the Site into waters.
- * Sample and analyze soils on the Franklin Smelting property.
- * Remove and segregate for disposal and/or stabilize, using appropriate cover, chemical stabilization, and/or in-situ stabilization, soils on the Franklin Smelting property contaminated with lead in excess of 1,000 ppm.
- * Sample, analyze the contents of drums, bags, above- and below-ground tanks, transformers, and other vessels and containers at the Site from which a release or threatened release of hazardous substances has occurred or may occur.

- * Remove and segregate for disposal and/or stabilize, using cover or by moving into a secure indoor area, the contents of all drums, bags, above- and below-ground tanks, transformers and other vessels and containers at the Site from which a release or threatened release of hazardous substances has occurred or may occur.
- * Segregate for disposal those drums, above- and below-ground tanks, transformers, and other vessels and containers at the Site which the OSC determines cannot be reused.
- * Assess off-property migration of hazardous substances including lead, cadmium and arsenic.
- * Prevent further migration of off-property hazardous substances by removing and segregating for disposal and/or stabilizing using appropriate cover, chemical stabilization, and/or in-situ stabilization, soils outside the Franklin Smelting property contaminated with lead in excess of 1,000 ppm.
- * Decontaminate process buildings, the blast furnace, baghouse, converter furnace, briquette operation, and other process equipment found to be contaminated with hazardous substances by pressure washing or other similar methods deemed appropriate to the OSC. Dismantlement of portions of the contaminated furnaces, baghouse, briquette operation and equipment and/or partial building demolition may be necessary in order to properly remove the contaminants where pressure washing or other similar methods cannot be used. Contaminated water will be collected and properly disposed offsite in accordance with federal and state law. The OSC has considered, and will continue to consider, use of the least intrusive methods to remove contamination from structures and intends to dismantle such structures only where less intrusive methods will not result in proper decontamination.
- * Prepare contaminated materials (e.g., dusts, soils, liquids from vessels and containers, etc.) For proper transportation and disposal.
- * Transport the contaminated materials to an appropriate disposal and/or treatment facility.
- * Obtain confirmation of waste disposal and/or treatment.
- * Backfill excavated areas and vegetate.

B. Estimated Costs

<u>Extramural Costs</u>	<u>Current Ceiling</u>	<u>Proposed Cost</u>
Regional Allowance Costs		
ERRS	\$ 1,500,000	\$ 14,500,000
SATA	\$ 150,000	\$ 1,225,000
USCG/AST	\$ 100,000	\$ 350,000
Subtotal	\$ 1,750,000	\$ 16,075,000
Other Costs Not Funded from the Regional Allowance		
15% Contingency		2,411,250
Total Extramural	\$ 1,750,100	\$ 18,486,250
<u>Intramural Costs</u>		
Direct Cost	\$ 77,000	\$ 300,000
	154,000	700,000
Total Intramural	\$ 231,000	\$ 1,000,000
Estimated Total Project Ceiling	\$ 1,981,000	\$ 19,486,25

The proposed costs unclude estimates based upon projected costs of disposal of all hazardous substances persent on site. The OSC is currently evaluating reuse/recycling options which could significantly reduce disposal costs resulting in savings of approximately \$7 million in ceiling estimates.

C. Contribution to Remedial Performance

The Franklin Smelting Site is not currently an NPL site. At this time, EPA's Site Assessment Program, in coordination with on-going removal actions, is evaluating the Site for possible long-term Remedial Action. The proposed Removal Action is consistent with accepted removal practices and is expected to abate the threats that meet the NCP removal criteria. The proposed action is not anticipated to impede future remedial responses at this Site.

D. Compliance with Applicable and Relevant and Appropriate Requirements (ARARS)

The Removal Action will comply with all Federal and State applicable and relevant and appropriate environmental and health requirements, to the extent practicable, considering the exigencies of the situation. ARARs include RCRA regulations found at 40 C.F.R Parts 262 (Standards Applicable to Generators of Hazardous Waste), 263 (Standards Applicable to

Transporters of Hazardous Waste), and 268 (Land Disposal Restrictions), TSCA regulations at 40 C.F.R. Part 761 (Polychlorinated Biphenyls), and Clean Water Act requirements and standards such as water quality criteria. This response action will reduce actual and potential airborne lead emanating from this facility and contribute to attainment of the Clean Air Act NAAQS for lead.

The OSC recognized that the Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (OSWER Directive No. 9355.4.12 (July 14, 1994)) represents the latest EPA guidance concerning lead cleanup and remediation actions under CERCLA and RCRA. While it is the OSC's desire to apply this directive to the proposed actions at this Site, it is not presently clear to the OSC how to do so for Removal Actions. Consequently, the proposed actions and the cleanup goals for lead have been developed for specific circumstances currently known at the Site based on the previously issued guidance (OSWER Directive No. 9355.4-02 (September 1989)), which recommended soil cleanup levels for lead of 1,000 ppm for protection of human health at industrial sites.

VII. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no action is taken or the action is delayed, the release of high concentrations of hazardous substances from the Site will continue to occur.

VIII. ENFORCEMENT

The EPA Region III Removal Enforcement Section has been provided with all background information available to pursue any and all enforcement actions pertaining to the Franklin Smelting Site. On April 27, 1998, EPA provided Franklin Smelting & Refining Corp. with a draft administrative order on consent setting forth terms under which Franklin could remove certain contaminated materials from the Site. As of this date, Franklin does not appear to be interested in conducting this work.

IX. RECOMMENDATION

Because the conditions at the Franklin Smelting Site continue to meet the criteria for a Removal Action set forth in the NCP, 40 C.F.R. § 300.415, and because the Site meets the criteria for an emergency exemption in section 104(c) of CERCLA, 42 U.S.C. § 9604(c), for continuation of a Removal Action beyond the \$2 million and 12 months, I recommend your approval of the proposed actions and budget in this Request for Funding to abate the imminent threat to human health and the environment presented by the conditions described herein. Your approval would authorize funding in the amount of \$19,486,250, of which \$18,486,250 is for Extramural Costs. You may indicate your approval or disapproval by signing below.

APPROVED:

Timothy Fields, Jr. *

DATE:

7/31/98

ACTING ASSISTANT ADMINISTRATOR

OFFICE FOR SOLID WASTE AND EMERGENCY RESPONSE

DISAPPROVED: _____

DATE: _____

Attachment: Confidential Enforcement Addendum

* *Region III to advise OSWER-AA by*
12/31/98 regarding whether site needs to be
proposed for National Priorities List.

**Federal On-Scene Coordinator's After Action Report
Franklin Smelting**

ORIGINAL

**APPENDIX C
NEWSPAPER ARTICLES**

Emergency cleanup for plant

by Ramona Smith

Daily News Staff Writer

The Environmental Protection Agency is planning an emergency Superfund removal of lead-tainted waste at the idle Franklin Smelting and Refining Corp. plant in Port Richmond.

Heaps of waste at the Castor Avenue plant are riddled with astronomical levels of heavy metal, according to EPA tests.

"This is a serious environmental problem that needs to be addressed. We're taking the appropriate steps to remove or mitigate any existing threats to public health and the environment," said EPA spokesman David Sternberg.

EPA crews are expected to begin work this month to clean up the hazardous waste at the company, which shut down in September in the face of financial and equipment problems. The company also was accused of spewing lead into the air and exposing workers to life-threatening levels of toxics.

Piles of slag from the blast fur-

EPA to rid toxins from metal refiner

nace and hundreds of bags of dust captured by air-pollution-control equipment are heaped up at the plant, which had been the nation's largest copper smelter.

Lead can cause anemia, kidney problems and damage to the central nervous system, as well as learning disabilities in children.

EPA crews also have found high levels of other toxics, including cadmium and arsenic, in some of the waste. Both are probable cancer-causing agents. Cadmium also can cause kidney damage and bronchial irritation.

Although the plant stands in an industrial area near the waterfront, Sternberg said the EPA was concerned about possible exposure to workers at nearby companies or to passers-by.

Because storm drains in the area discharge into the Delaware River, the agency is concerned about potential pollution of the water as

well.

Franklin, which employed about 200 people, last summer contested an \$821,360 fine from the Occupational Safety and Health Administration and an EPA claim that it continued to spew lead in violation of a consent order resolving a 17-year-old pollution lawsuit.

Federal agencies said \$3 million worth of equipment intended to fix longstanding air-pollution problems succeeded only in driving fumes back inside the plant. There, OSHA alleged, it exposed employees to "life-threatening" levels of lead and cadmium, with lead up to 58 times the federal occupational limit.

While the plant continued operating, city inspectors wrote up dozens of alleged violations of a consent order resolving a longstanding air-pollution lawsuit brought by the city and the Bridesburg Civic Council.

Sternberg estimated the cost of emergency cleanup under the Superfund law at about \$200,000. He said Franklin had declined to spearhead the cleanup. ■

A dirty job, but EPA has to do it

by **Ramona Smith**

Daily News Staff Writer

Talk about a housecleaning.

The Environmental Protection Agency is encountering toxic dust up to six inches thick as it begins demolishing part of the old Franklin Smelting and Refining Corp. plant in Port Richmond.

The \$19.4 million Superfund cleanup is unearthing enough lead-tainted dust to cover a football field to a depth of about a yard at the defunct copper smelting plant, which shut down last year in the face of financial and equipment problems.

"Some areas, it's probably caked on there 6 inches on the beams," said Kevin Boyd, on-scene coordinator for the EPA.

The agency's contractors have to get rid of the dust — with heavy vacuum equipment and a power wash — before they can tear down the bulk of a rusty old corrugated metal smelting building on Castor Avenue east of Interstate 95.

Although the plant is a quarter-mile from the nearest homes, the dust would be hazardous to demolition workers. Lead can cause anemia, kidney problems and damage to the central nervous system.

Right now demolition is just beginning at the old corrugated building, once the heart of a smelting operation that covered two city blocks.

The old stack — cited for hundreds of air pollution violations over the years — was torn down for fear it would topple over. Some equipment platforms inside the building also "unexpectedly collapsed," Boyd said.

The demolition doesn't include a new building that was supposed to capture the plant's remaining air pollution and end violations that included the highest lead readings in the country during the plant's last three years.

Unfortunately, \$3 million worth of pollution controls apparently just drove fumes back inside the building, where the Occupational Safety and Health Administration accused Franklin of exposing workers to "life-threatening" levels of lead and cadmium.

The company, which was the nation's largest copper smelter, shut down shortly after OSHA called for a \$821,360 fine.

The EPA also has been investigating the company for suspected shipment of hazardous waste without a manifest.

The emergency cleanup — which started this spring with just under \$2 million and was bolstered by the recent approval of an addi-

tional \$17.5 million by EPA officials in Washington — includes hauling away 478 tons of scrap metal and sending 289 barrels of arsenic-tainted dust for hazardous waste disposal.

The cleanup even spread to an adjacent city sewage treatment plant, where big fans in a sludge-drying building had sucked in some of the dust.

Workers in that part of the

Northeast sewage plant were offered lead tests, the Water Department said, but none tested with high lead levels.

A Coast Guard strike team is checking water drainage from the site near the Delaware River. ■

Send e-mail to smithra@phillynews.com or call our environmental hot line at 215-854-5999.

**Federal On-Scene Coordinator's After Action Report
Franklin Smelting**

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**APPENDIX D
PHOTOGRAPHIC DOCUMENTATION**

Federal On-Scene Coordinator's After Action Report
Franklin Smelting

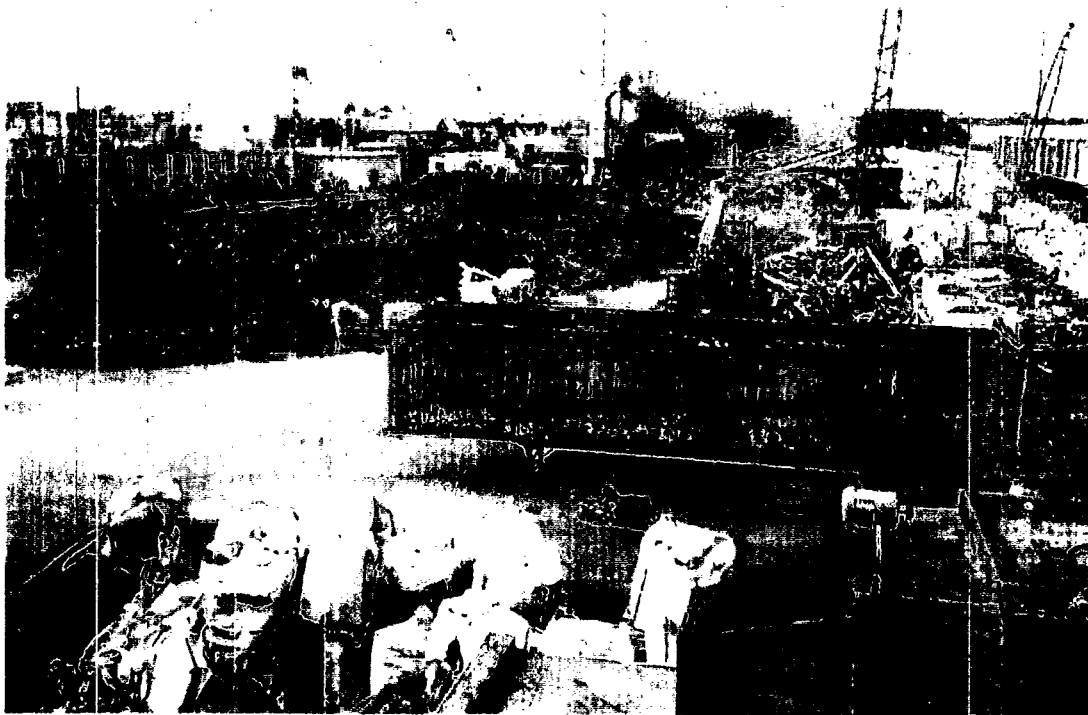
ORIGINAL



Date: March 1998

Photographed by: SATA

Description: Photograph shows deteriorated drums and tote bags that are releasing contents.



Date: March 1998

Photographed by: SATA

Description: Photograph was taken at the north side of site. Middle left area of photograph shows pile P008, followed by excavation area. To the right and rear of the site is the PWD northeast treatment facility.

ORIGINAL

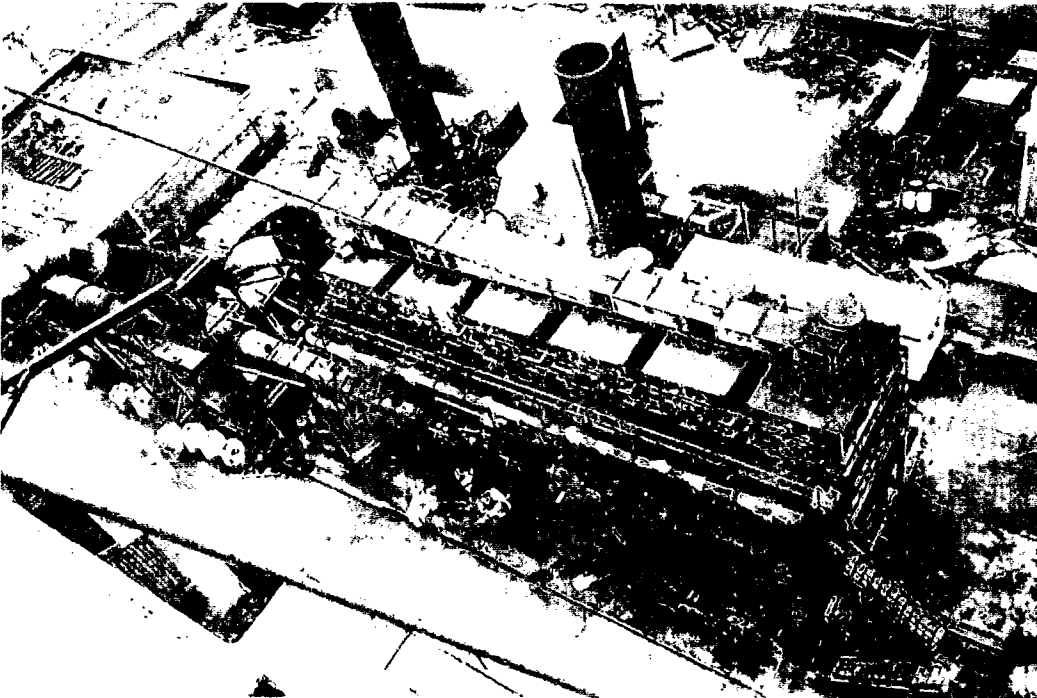
Federal On-Scene Coordinator's After Action Report
Franklin Smelting



Date: March 1998

Photographed by: SATA

Description: Foreground shows tote bags in front of the Harris Shear 1.
Background shows smelter building to the left and the converter shed to the right.



Date: March 1998

Photographed by: SATA

Description: Photograph shows view of the baghouses. This view was taken from the man-lift of the 80-ton crane prior to stack demolition.

Federal On-Scene Coordinator's After Action Report
Franklin Smelting

ORIGINAL



Date: March 1998

Photographed by: SATA

Description: Photograph shows deteriorated structures on the south side of the site.

Federal On-Scene Coordinator's After Action Report
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Date: March 1998

Photographed by: SATA

Description: The ERRS crewmembers are cleaning and disposing of boxes in the common area of the PWD fan room.

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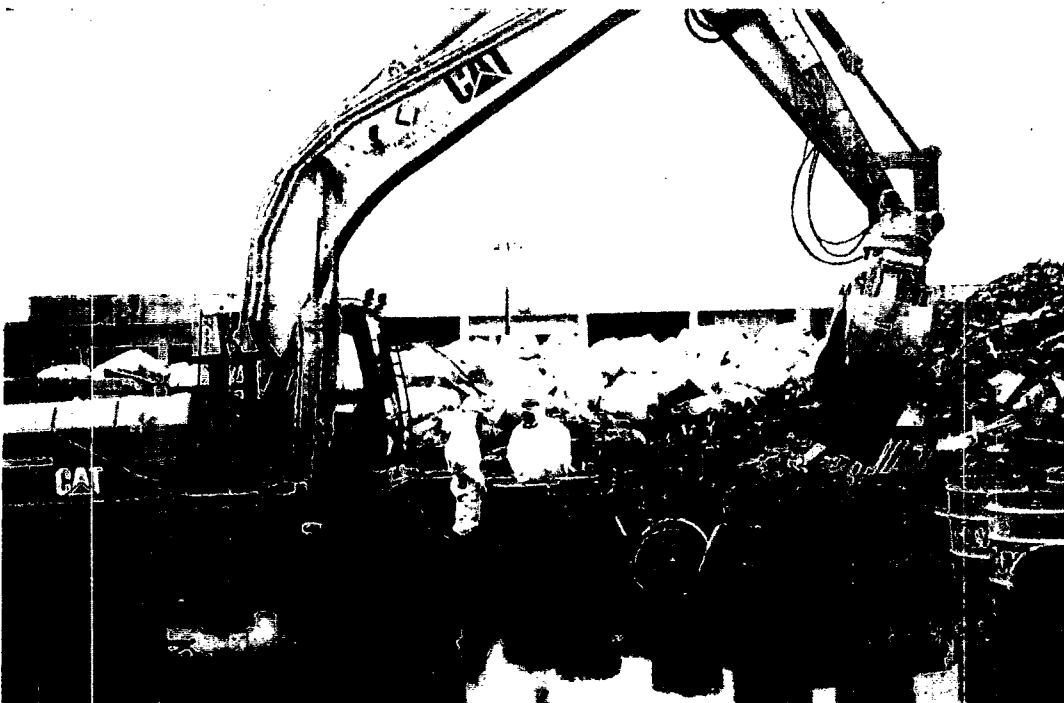
ORIGINAL



Date: March 1998

Photographed by: SATA

Description: The ERRS crew is cleaning up the floor of the PWD fan room. The crew is using a wet-dry vacuum to clean up the water off the floor.



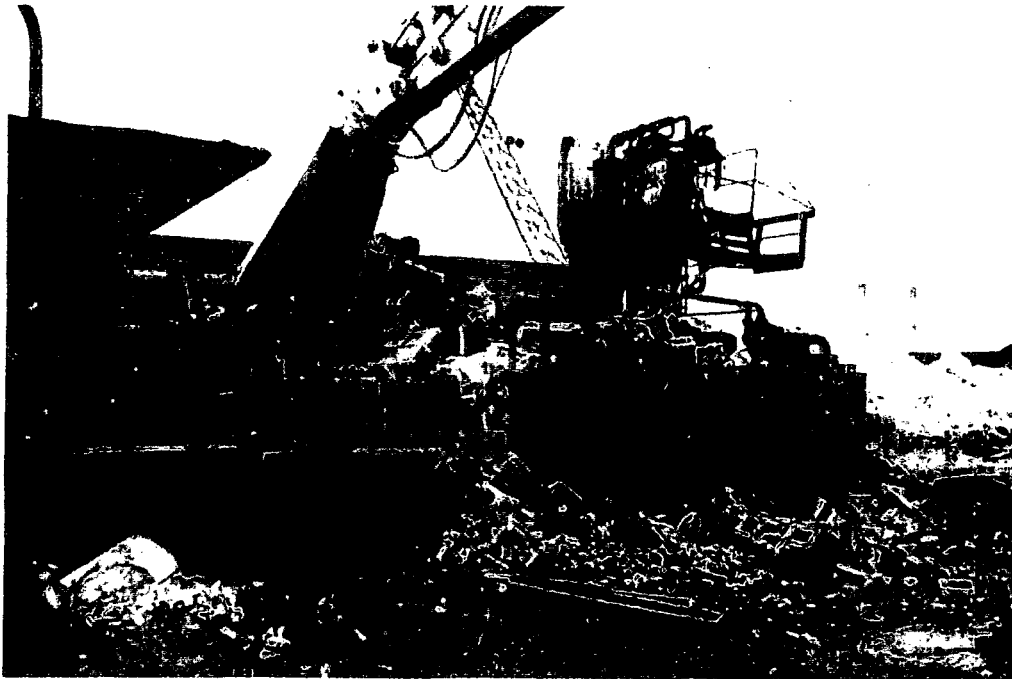
Date: March 1998

Photographed by: SATA

Description: ERRS is overpacking old drums.

ORIGINAL

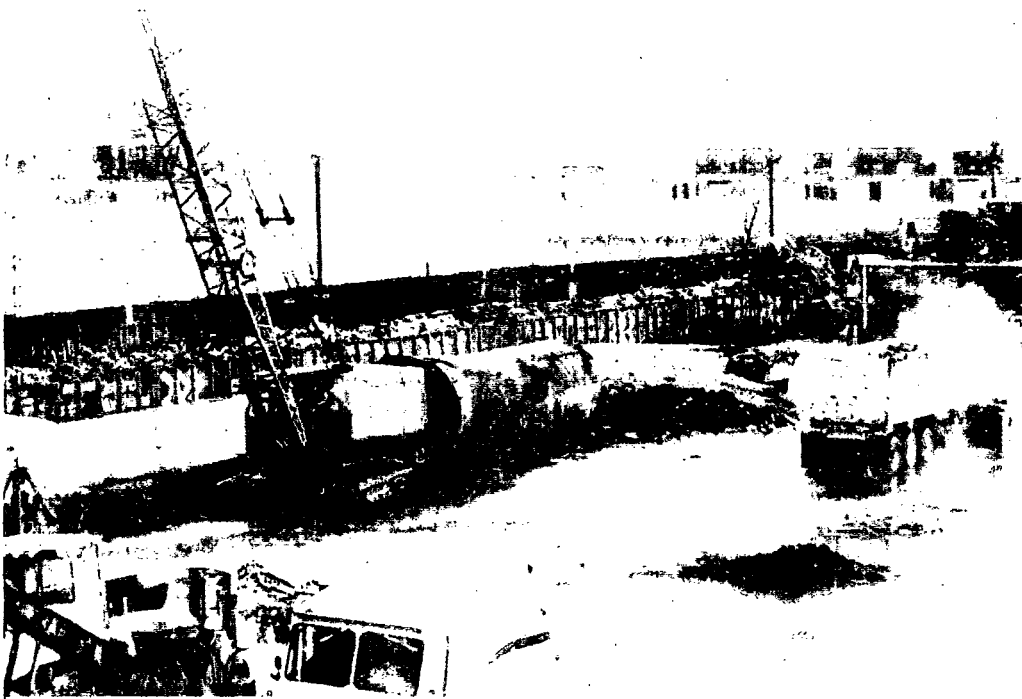
Federal On-Scene Coordinator's After Action Report
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Date: April 1998

Photographed by: SATA

Description: ERRS crew operator is in the excavator with a grappler attachment. He is in the process of demolishing the pumphouse that was attached to the Harris Shear II.



Date: October 1998

Photographed by: SATA

Description: Foreground shows decontamination of a truck loaded with zinc bag material before it leaves the site. Background shows pile P008 loaded into the railcars.

Federal On-Scene Coordinator's After Action Report
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Date: October 1998

Photographed by: SATA

Description: Pile P008 is loaded into the railcar.



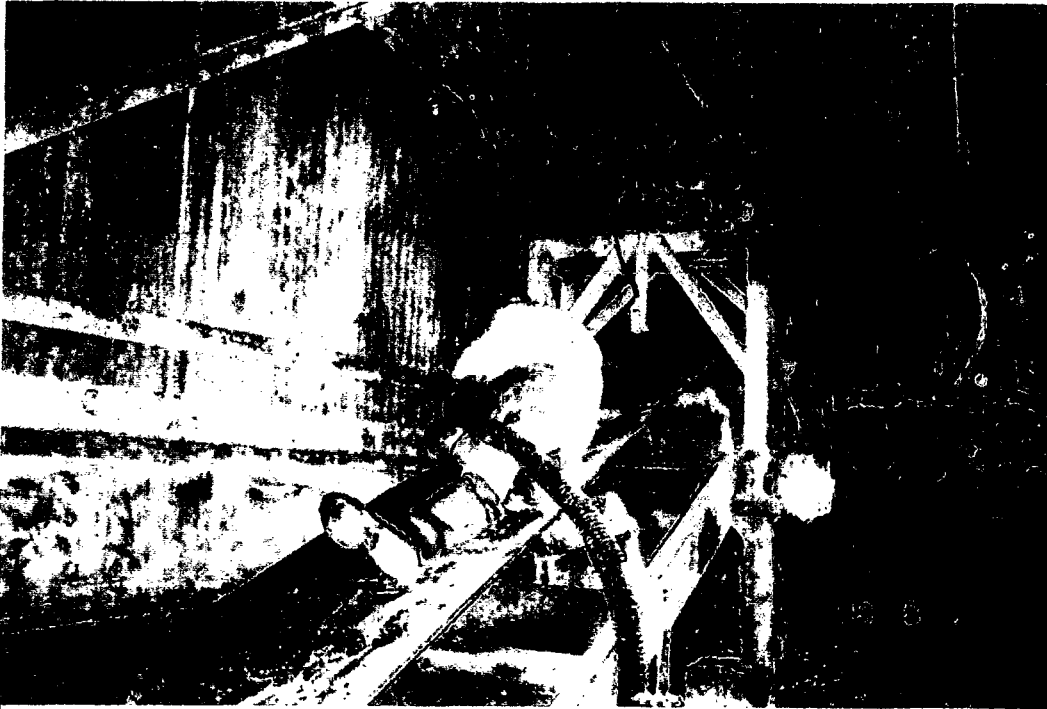
Date: May 1998

Photographed by: SATA

Description: ERRS is loading scraps and debris from the south yard office trailer demolition into roll-off boxes for removal.

ORIGINAL

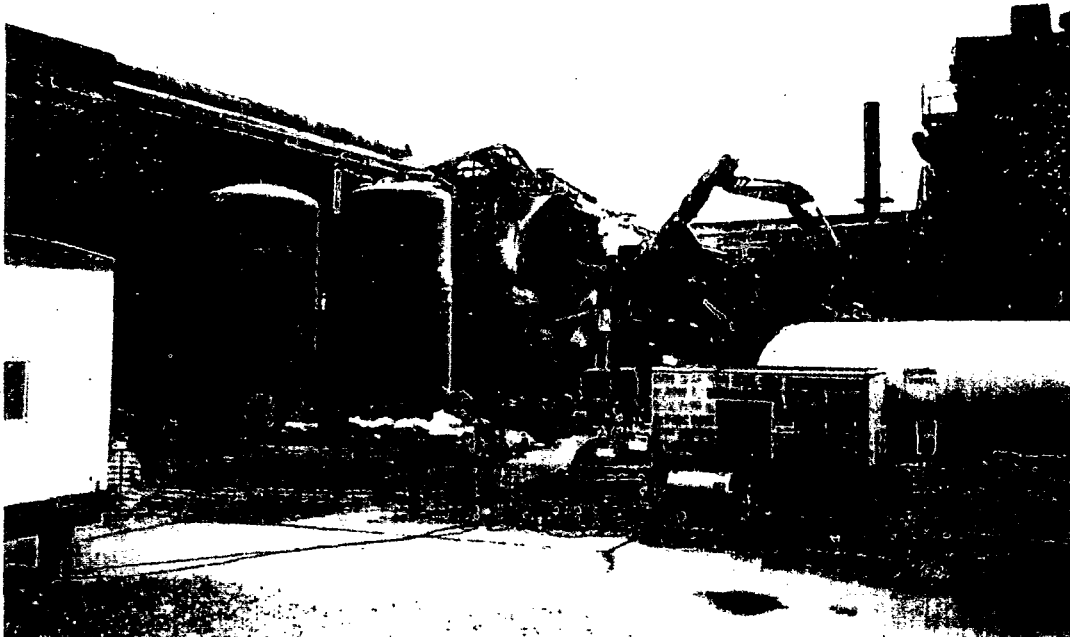
Federal On-Scene Coordinator's After Action Report
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Date: August 1998

Photographed by: SATA

Description: Photograph shows vacuum operations inside the briquette area.



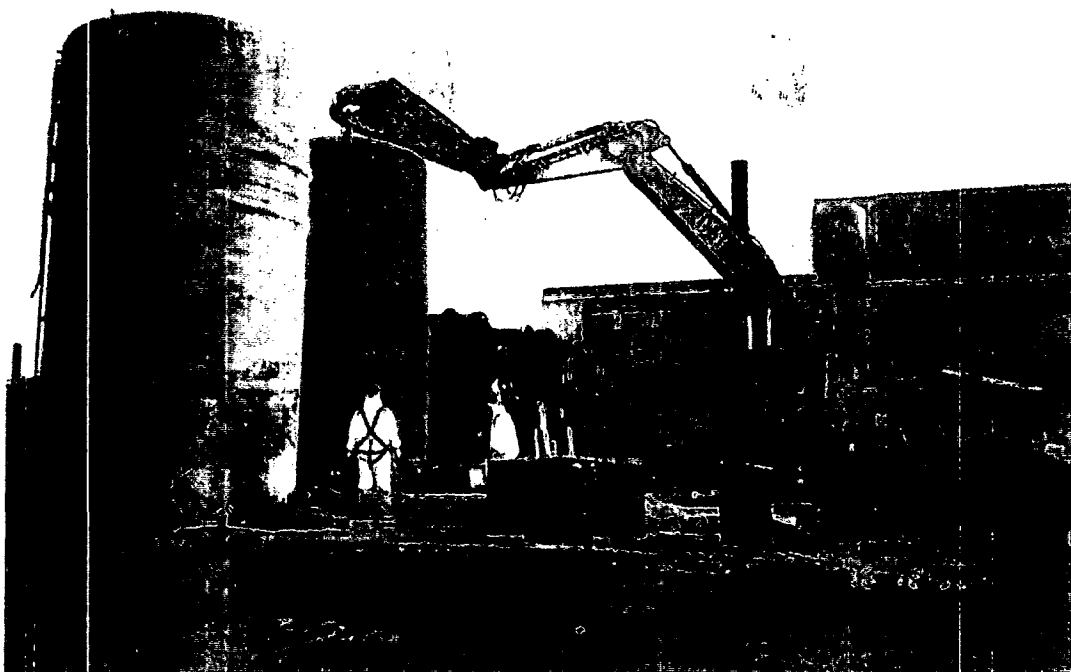
Date: September 1998

Photographed by: SATA

Description: Photograph shows demolition of the converter building.

Federal On-Scene Coordinator's After Action Report
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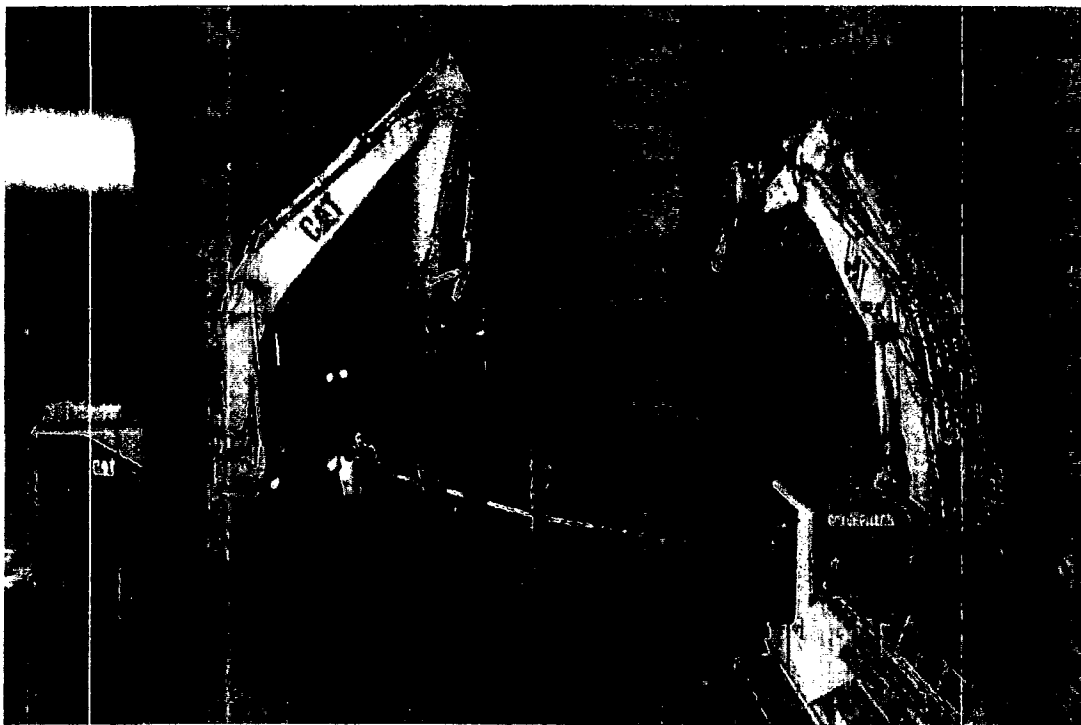
ORIGINAL



Date: January 1999

Photographed by: SATA

Description: Photograph shows cleaning and dismantling of Fiberglass-reinforced plastic tank 2.



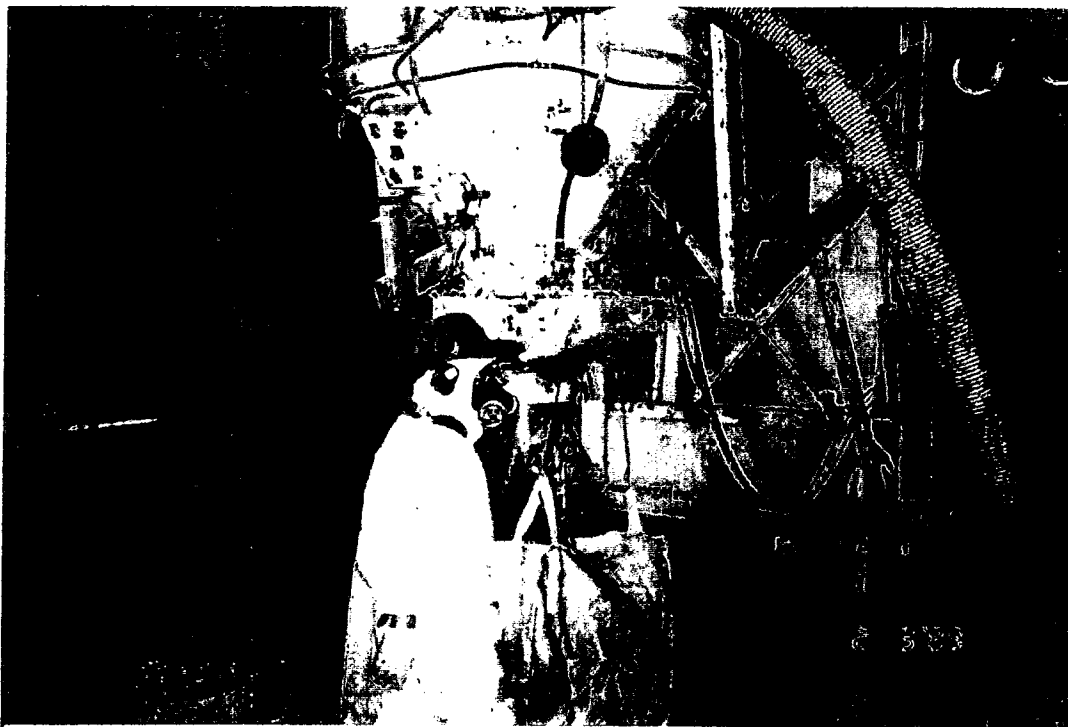
Date: February 1999

Photographed by: SATA

Description: Photograph shows demolition of the hoppers and baghouse in the smelter building.

ORIGINAL

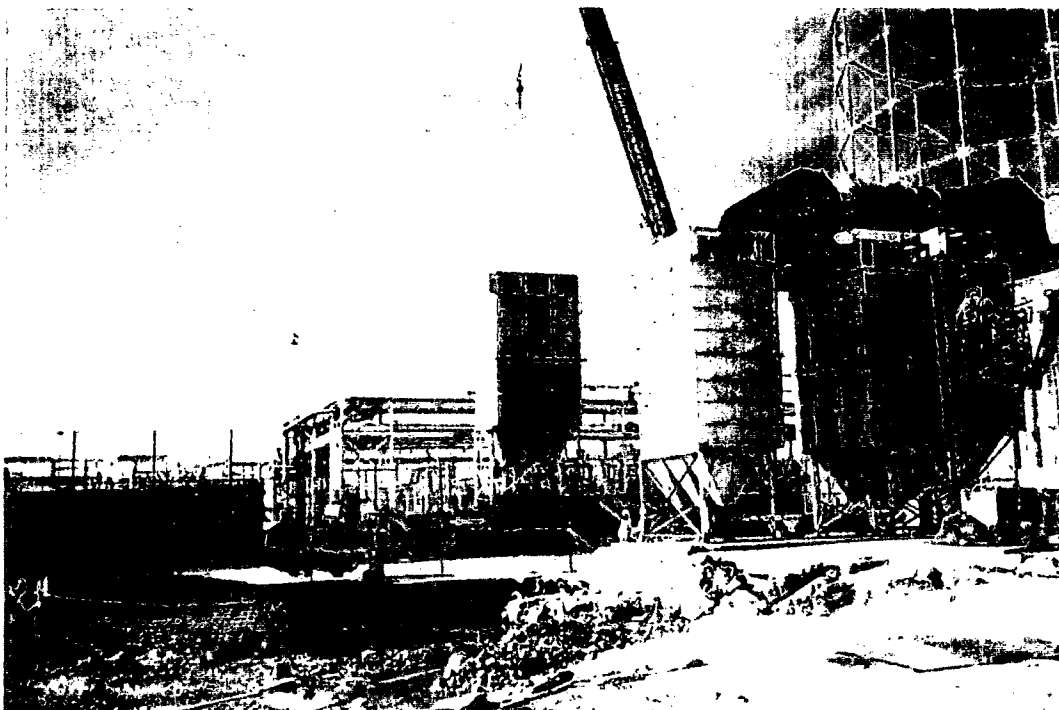
Federal On-Scene Coordinator's After Action Report
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Date: February 1999

Photographed by: SATA

Description: Vacuum loader is loading a tote bag with vacuumed smelter dust.



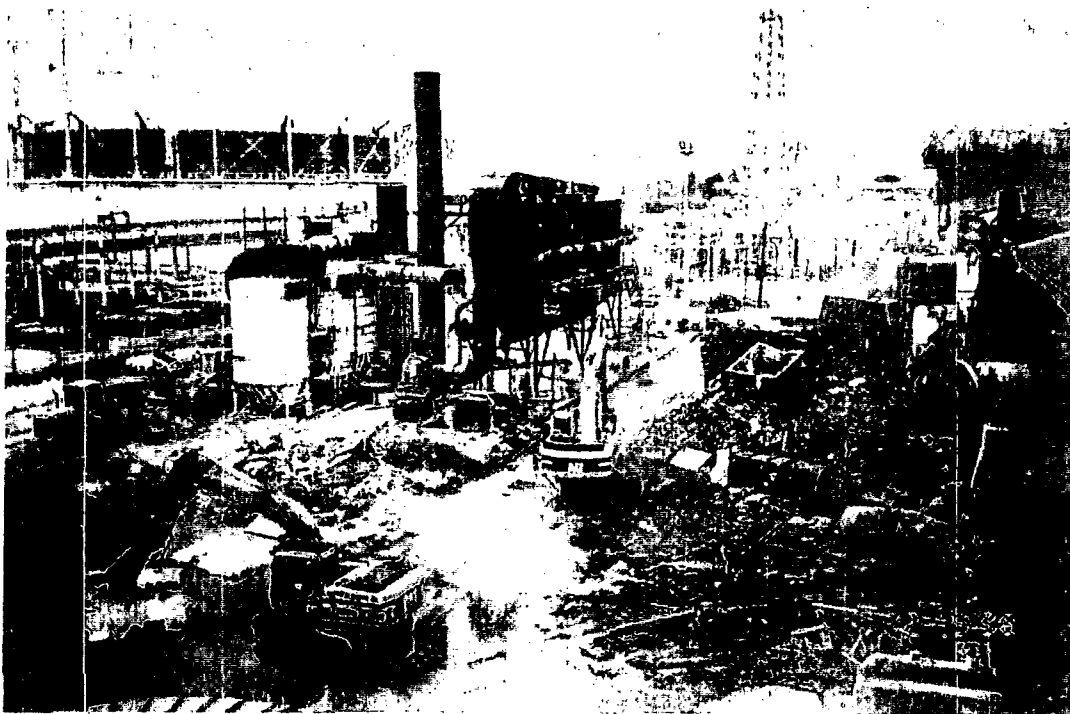
Date: October 1999

Photographed by: SATA

Description: Photograph shows removal and relocation of baghouses 20 through 23 by crane.

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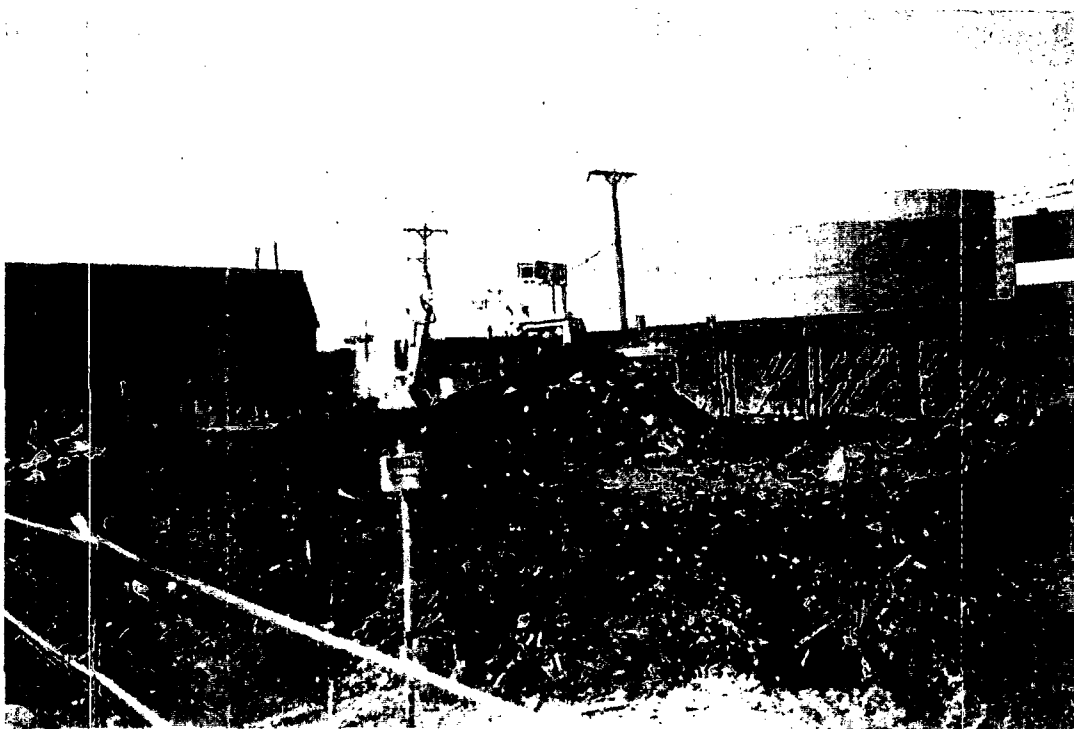
ORIGINAL



Date: September 1998

Photographed by: SATA

Description: Photograph shows south yard during converter building demolition operations.

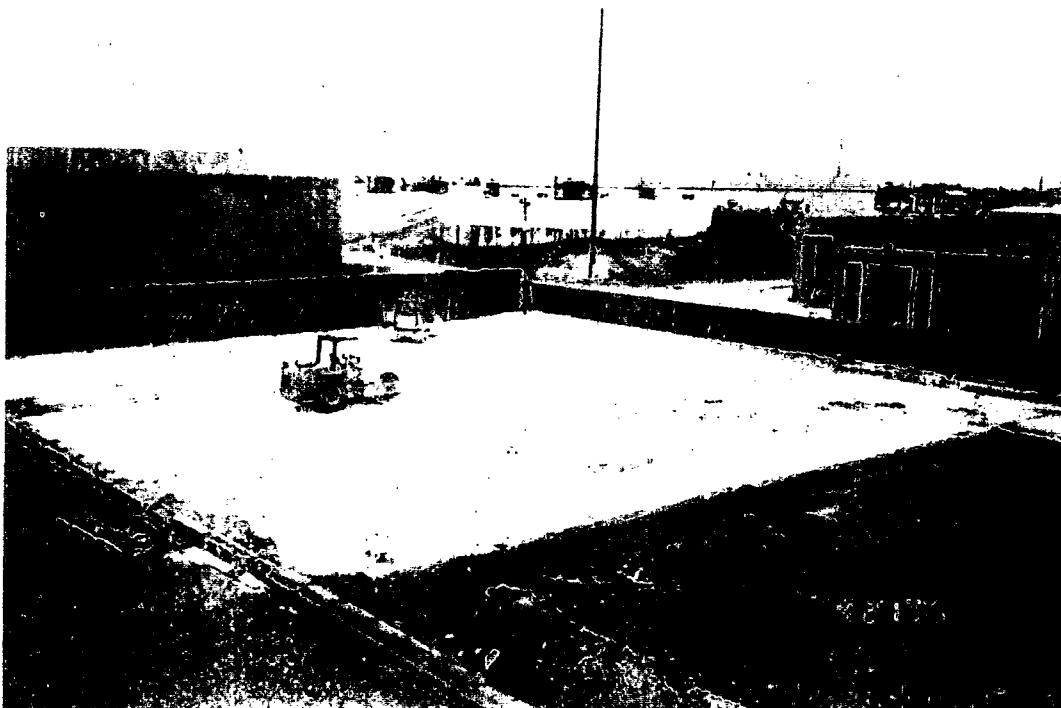


Date: April 1999

Photographed by: SATA

Description: Photograph shows excavation operations in excavation area 1, northwest corner of the north yard.

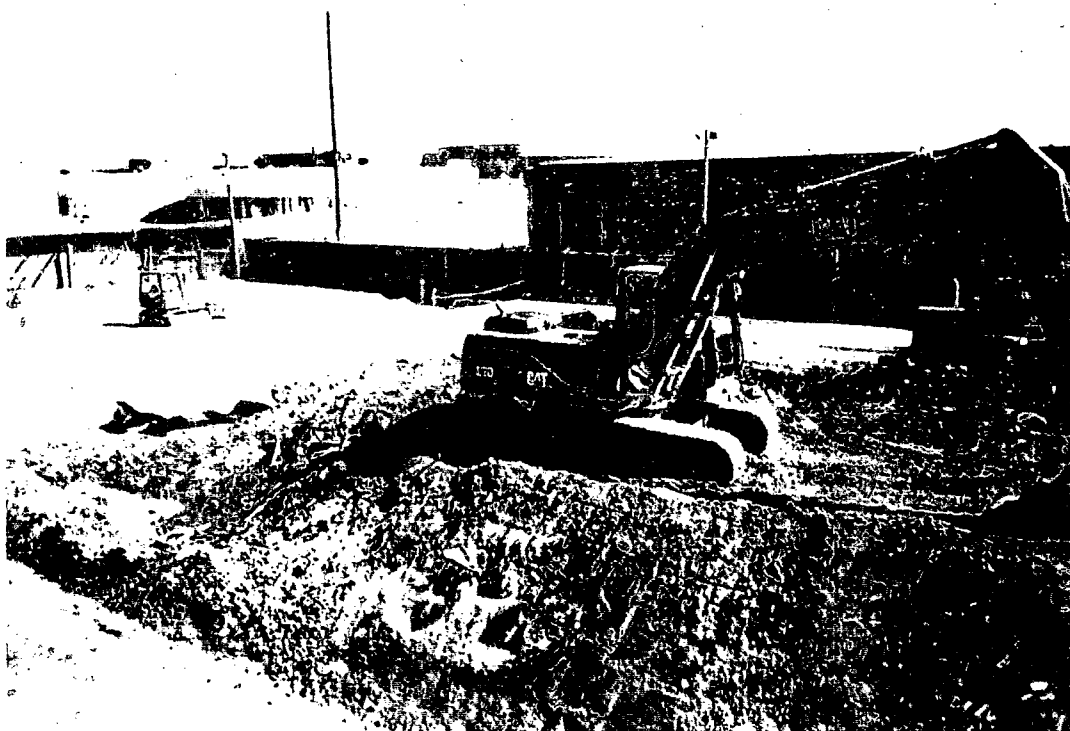
Federal On-Scene Coordinator's After Action Report
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Date: April 1999

Photographed by: SATA

Description: Photograph shows excavation in area 2; excavation area 1 is completed and backfilled.



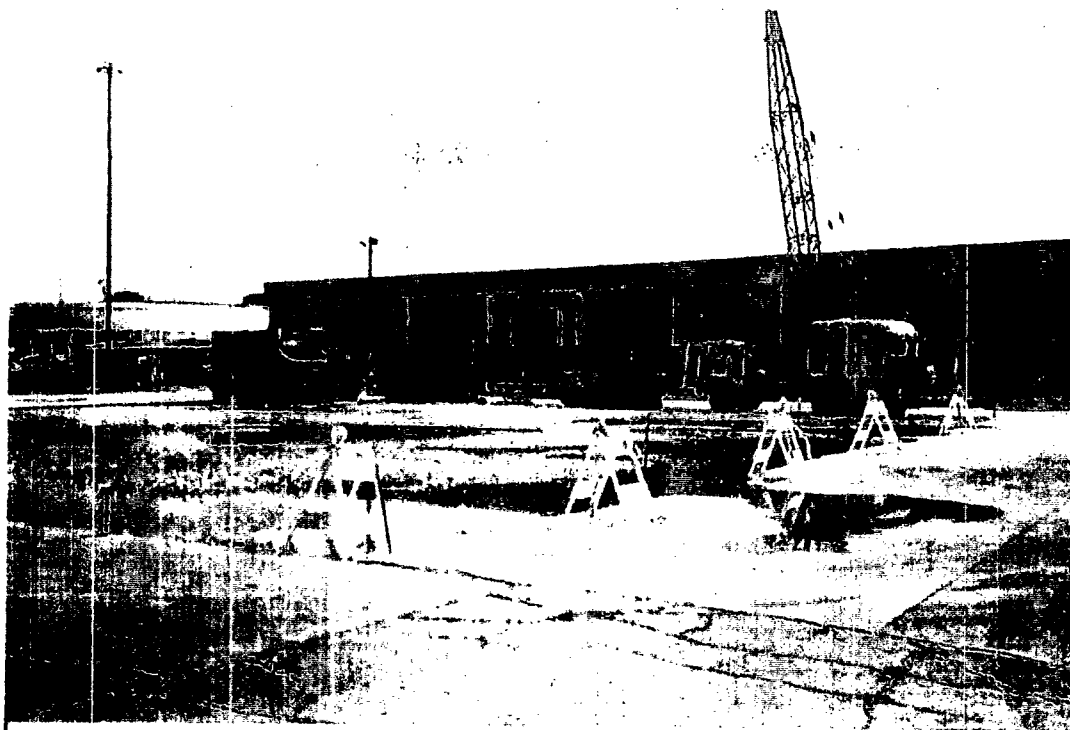
Date: April 1999

Photographed by: SATA

Description: Photograph shows backfilling in area 1 and staging soil in excavation area 2.

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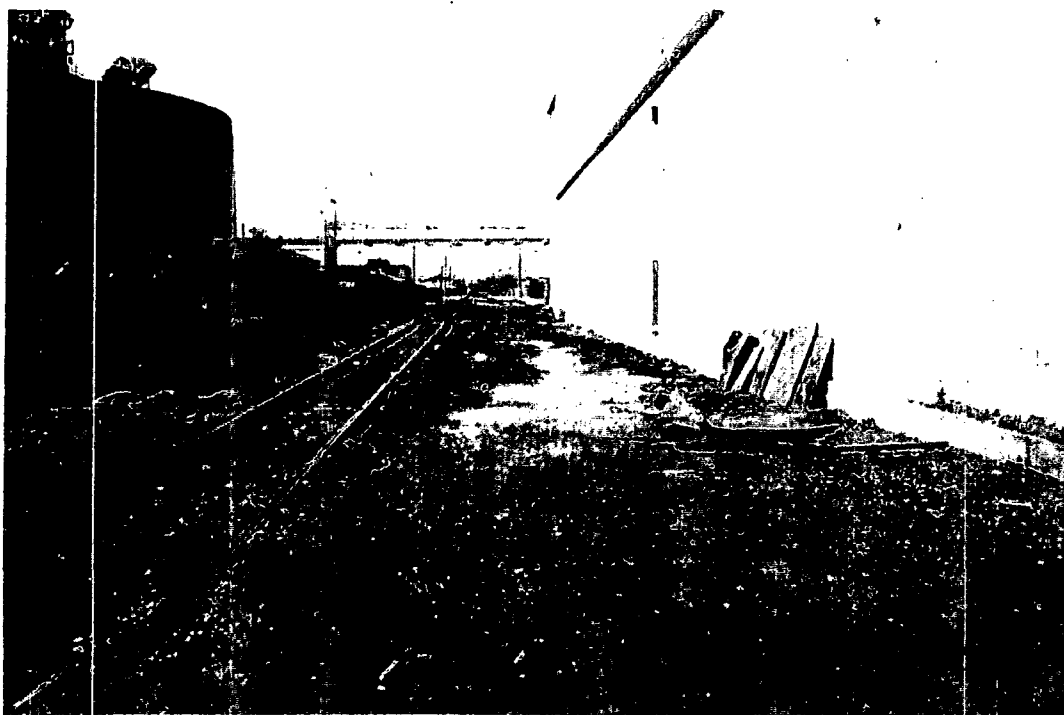
ORIGINAL



Date: May 1999

Photographed by: SATA

Description: Scrap equipment is cleaned and staged on backfilled excavation area 2.



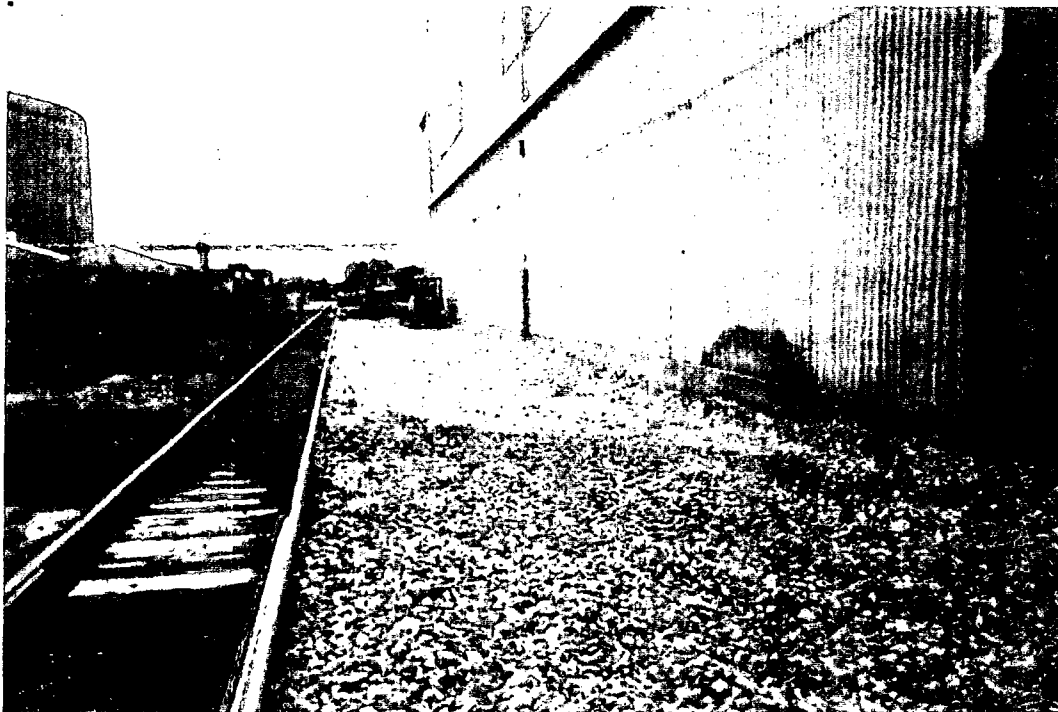
Date: March 1999

Photographed by: SATA

Description: Photograph shows pre-existing conditions of the Conrail railroad tracks on the south side, prior to excavation.

ORIGINAL

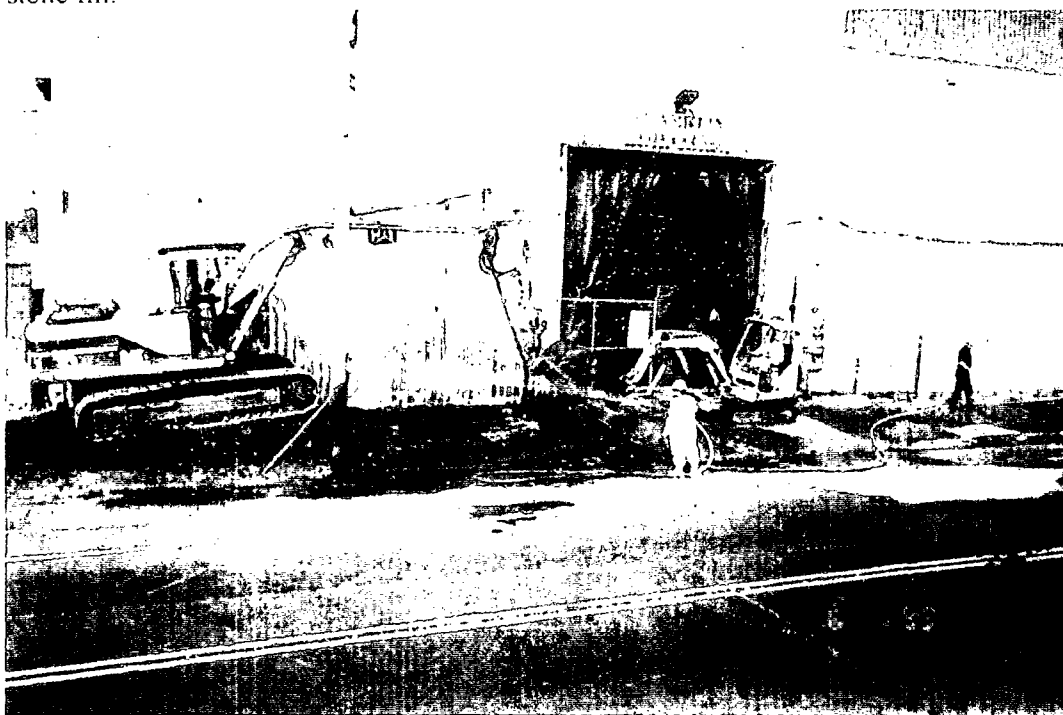
Federal On-Scene Coordinator's After Action Report
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Date: June 1999

Photographed by: SATA

Description: Excavated area next to the Conrail tracks is shown being filled with 3-inch depth of stone fill.



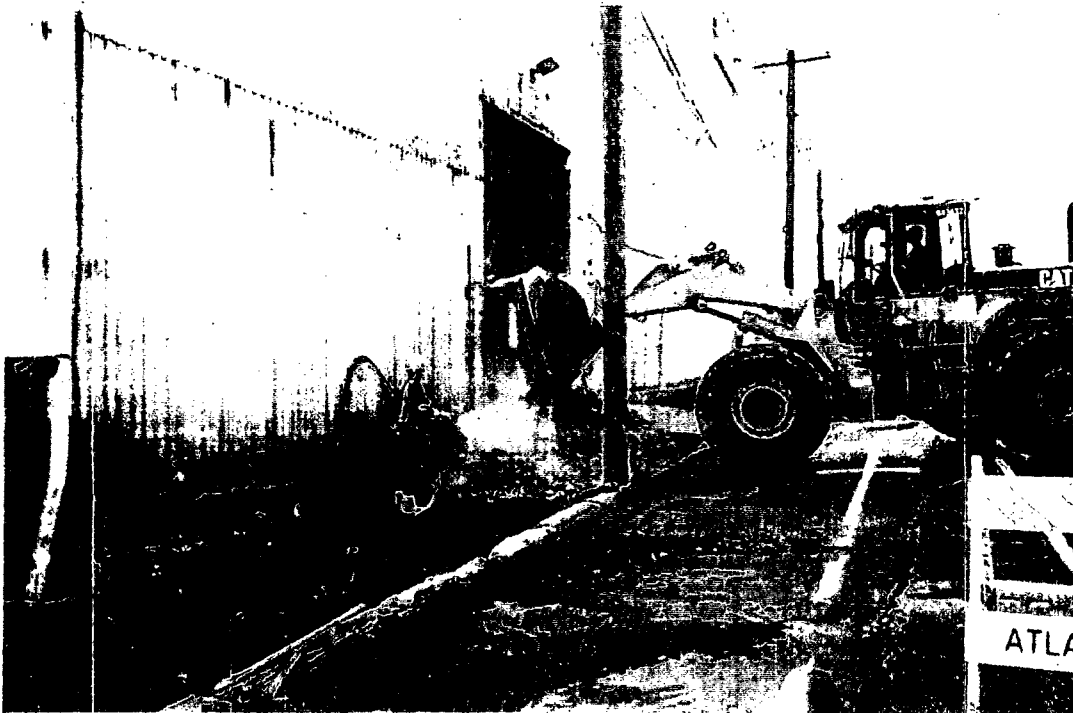
Date: June 1999

Photographed by: SATA

Description: Excavators are being used to excavate slag material from along Castor Avenue the hose is used to control the dust.

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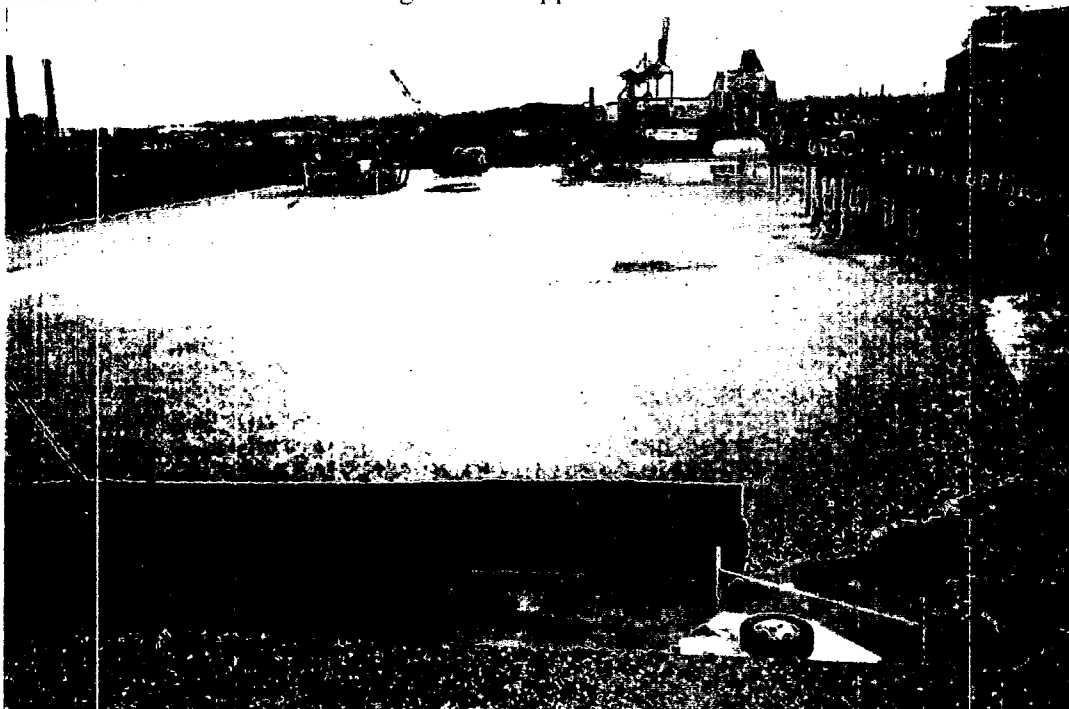
ORIGINAL



Date: June 1999

Photographed by: SATA

Description: Photograph shows backfill of the excavated area outside of the smelter building on Castor Ave. The fire hose is being used to suppress dust.



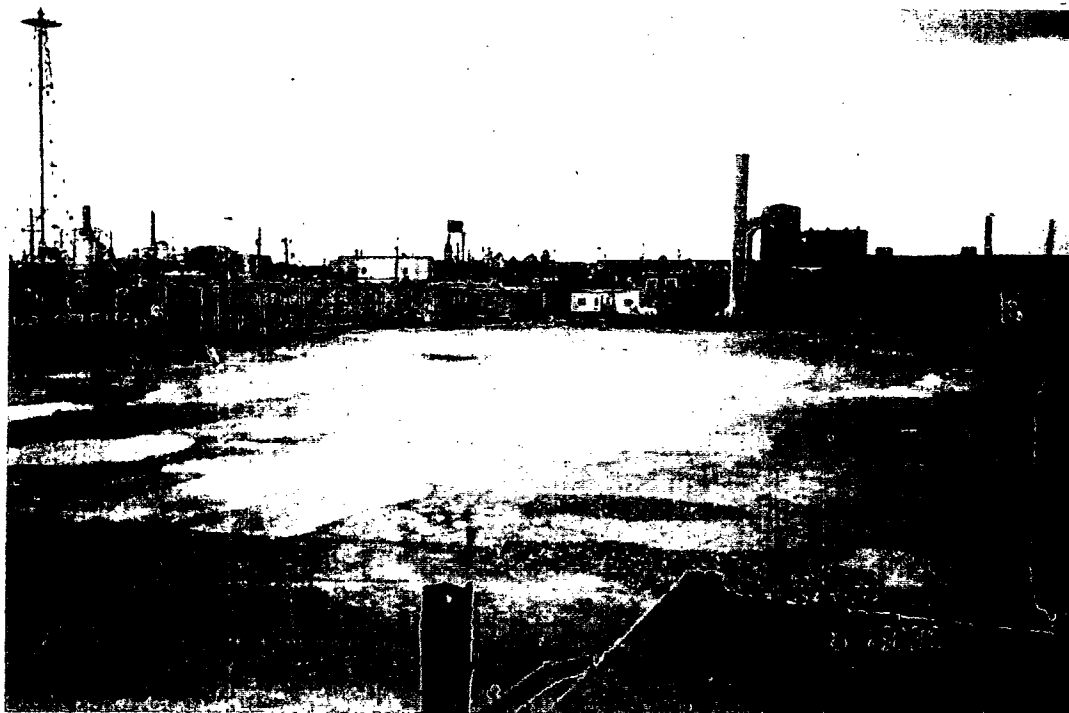
Date: August 1999

Photographed by: SATA

Description: Photograph shows north yard after the completion of excavation and backfill operations.

ORIGINAL

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Date: August 1999

Photographed by: SATA

Description: Photograph shows post-cleanup view around excavation area 4.



Date: September 1999

Photographed by: SATA

Description: Contractors roll out protective sheeting to begin covering the converters. South side operations outside of the smelter building area are almost complete.

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**APPENDIX E
GLOSSARY OF ABBREVIATIONS AND DEFINITIONS**

**Federal On-Scene Coordinator's After Action Report
Franklin Smelting**

**APPENDIX E
GLOSSARY OF ABBREVIATIONS AND DEFINITIONS**

µg/mg	microgram per milligram
ACOE	U.S. Army Corps of Engineers
AM	American Microtrace
ARAR	Applicable or relevant and appropriate environmental regulations
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIC	Criminal Investigation Coordinator
CIH	Certified Industrial Hygienist
CGI	Combustible gas indicator
CRZ	Contamination reduction zone
CWA	Clean Water Act
CWM	Chemical Waste Management, Inc.
DR	Data Ram
EMT	Emergency medical technician
HAZCAT	Hazard Characterization
EPA	U.S. Environmental Protection Agency
EPIC	Environmental Photographic Interpretation Center
EOSC	Enforcement on-scene coordinator
ERRS	Emergency Rapid Response Service
ERT	EPA Emergency Response Team
ESD	Environmental Services Division
FAS	Field administrative specialist
FIP	Final implementation plan
FOIA	Freedom of Information Act
FRP	Fiberglass-reinforced plastic
FSR	Franklin Smelting and Refining Corporation
HCSD	EPA Hazardous Site Cleanup Division
HEPA	High efficiency particulate air
HSO	Health and Safety Officer
IT	IT Corporation
KG	Kilogram
LEL	Lower explosive level
LEPC	Local emergency planning committee
MG/KG	milligrams per kilogram
MG/L	milligrams per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIOSH	National Institute for Occupational Safety and Health
NOV	Notice of Violation
NPL	National Priorities List
OHM	OHM Corporation (Currently a part of IT Corporation)
ORC	Office of regional counsel
OSC	EPA on-scene coordinator
OSHA	Occupational Safety and Health Administration

**Federal On-Scene Coordinator's After Action Report
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PAHs	Polynuclear hydrocarbons
PADEP	Pennsylvania Department of Environmental Protection
PAMS	Philadelphia Air Monitoring
PAP	Powered air purifying respirators
PCBs	Polychlorinated biphenyl
PDR	Personal Data Ram
PECO	Philadelphia Electric Company
PEL	Permissible exposure limit
PGW	Philadelphia Gas Works
PID	Photo Ionization Detector
PIDC	Philadelphia Industrial Development Center
PPM	parts per million
POLREP	Pollution Report; report documenting site activities
PPE	Personal protective equipment
PRP	Potentially responsible party
PWD	Philadelphia Water Department
PVC	Poly vinyl chloride
RCRA	Resource Conservation and Recovery Act
RM	ERRS response manager
RPM	EPA remedial program manager
RRC	EPA regional response center
SAM	Site assessment manager
SAO	EPA site administrative officer
SARA	Superfund Amendment and Reauthorization Act of 1986
SATA	Site Assessment and Technical Assistance (Roy F. Weston, Inc.)
SDB	Sludge Digester Building
START	Superfund Technical Assistance and Response Team
STB	Sludge Thickening Building
TCLP	Toxicity characteristic leaching procedure
T&D	Transportation and disposal
TSCA	Toxic Substances Control Act
UIC	Unified incident command
USCG	United States Coast Guard
UST	Underground storage tank
WCMD	Waste Chemical Management Division